Clinical Lecture
ON
PELVIC HÆMATOCELE.

Delivered at St. Mary's Hospital,

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GENTLEMEN,—Pelvic hæmatocele, the subject of to-day's lecture, comprises the various forms of blood effusion occurring in the pelvic region or pelvi-abdominal cavity. Some of these internal hæmorrhages are accidents of great severity, may even prove rapidly fatal, and are usually more or less grave and painful. For clinical purposes it is desirable to group them under this comprehensive and well-known term, rather than to employ loosely or indifferently those of "retro-uterine," "peri-uterine," or "peri-metric" hæmatocele, or "pelvic hæmatoma," which, if etymologically more accurate as descriptive of varieties, are not altogether free from the fault of postulating hypothetical views, while they divert attention from that clinical concentration and convergence so essential for accurate diagnosis in an affection owning manifold origins. At the bedside it is helpful to have a wide grasp of the possibilities of causation in any malady, and in none more than in pelvic hæmatocele, which may arise in the pregnant or non-pregnant, be of spontaneous or traumatic origin, and may in some cases urgently demand prompt remedial measures. The clinical features of the affection will chiefly occupy us, but some reference to the subjects of etiology and pathology is unavoidable, because upon the correct appreciation thereof depends the accurate interpretation of clinical phenomena as to which there is little disaccord. Moreover, recent experimental and pathological researches, together with some bedside observations of my own, throw fresh light upon problems which to some yet appear obscure, and will, it is hoped, help to solve them. Blood effusions of the kind in question occur mostly during menstrual life, from the fifteenth to the forty-fifth year, and commonly during the prime of that period (twenty to thirty-five), although there are forms to which the epochs of puberty and the change of life are exposed.

As some of you may not yet be clinically familiar with the affection, let me describe to you a typical case, such as is commonly designated the "retro-uterine" form. At or near a catamenial period, which may be checked, retarded, suppressed, or otherwise deranged, and may have been preceded or accompanied by pain, weight, throbbing, tension, and discomfort about the pelvic region or genitals (although premonitory symptoms are not always present), a young woman, married or single, is seized with sudden and severe pain of a stabbing or tearing character in the lower part of the abdomen or groin on either side, and extending into the privates. Faintness ensues, and the sufferer is compelled to lie down. Thereupon speedily follow vomiting, sweating, more or less faintness or even collapse, with a thready pulse. A flow of blood from the genitals often comes on (metrorrhagia) and may be profuse, or there may be none. Frequent efforts at micturition urge the patient, but are followed shortly by retention. Unsatisfactory efforts at defecation may also annoy the sufferer, to whom every movement becomes increasingly distressing. She lies with her knees drawn up, one generally trending over the other—that on the side of the lesion usually—dreading every movement, troubled by thirst, and complaining of bearing down and pressure in the lower part of the body and privates. The countenance becomes anxious, and the extremities and surface generally chilled and clammy, and the whole body may be bedewed with cold sweat. The abdomen is excessively tender, and the parietal muscles tensely contracted. Such an attack may supervene without warning, but more usually patients have been exposed to sudden chill, to mental emotion, moral or physical shock, or have been making some violent effort, all occurring mostly about the time of the menstrual epoch. One of my patients got chilled in a snowstorm while menstruating, and had an intra-peritoneal hæmorrhage; another had a subperitoneal effusion from severe exertion; a third, an effusion between the folds of the left broad ligament from sudden effort in an awkward attitude—catching a young lady who jumped into her arms from a drawing-room stairs. After the acute stage, that of effusion, has subsided, distension of the abdomen supervenes, accompanied in most cases by exquisite sensitiveness. The tongue becomes dry, and later on glazed and striped. Thirst may be insatiable, and vomiting persistent. The aspect of the patient in severe cases is that of profound exhaustion and collapse; and in all of somewhat acute suffering, alarm, and shock. These symptoms, you will observe, resemble those of acute irritant poisoning; and in several instances of sudden death from internal hæmorrhage the suspicion has justly been aroused that the fatal issue was due to poisoning, and has, very properly, led to post-mortem investigation to clear up the doubt.[1] They also simulate those of perforation of gastric ulcers (the ulcer of young women, chlorotic and other, which has a punched-out aspect and tends so readily to perforate, especially about the menstrual periods) or perforation of the intestines, notably in typhoid fever; of strangulation of intestine, hernial or other; of acute retroversion of the gravid uterus, as in a case of my own, and so on. Again, sudden and severe hæmorrhages may occur into the peritoneal cavity from splenic disease, from burst aneurysms or atheromatous arteries,[2] and from hæmatolytic changes, however originating.

So far it may be assumed that observation and inquiry have informed us as to the patients' condition and symptoms, but we are now led to desire such further exact information as physical investigation of the parts or viscera suspected to be implicated will afford. Usually the necessity for pelvic exploration is indicated. In proceeding to consider that subject, let me expressly inculcate the importance of extreme gentleness and delicacy, and enjoin upon you that it is imperative that you explore only with that best of all instruments, the finger—the index finger, and that alone. I am constrained to do this the more emphatically, because it is within my experience that large pelvic effusions, hæmorrhagic and other, have not only remained entirely unrecognised through the exclusive use of specula, but I might go further and mention examples, seen in consultation, where such effusions have altogether escaped recognition, owing to the omission to make any pelvic examination, digital or other. You are aware that I am chary of resorting to internal examinations as a routine practice, but when they are obligatory they should be properly and thoroughly performed. The illumination afforded by pelvic exploration may be great. Take an ordinary case, such as we have already supposed. What shall we find? We should divide the phenomena into those of the *early* stage, where the blood is fluid, and those of the *later* stages, when it has coagulated, omitting for the present changes that ensue when softening from suppuration &c. occurs. If a case be examined shortly after the blood has been effused a *soft* swelling will be found, bulging into the hinder wall of the vagina, and crowding the uterus downwards and forwards against the pubic arch (I am speaking now of the undisputed phenomena of what some call "retro-uterine" hæmatocele).

Should the patient, however, not be examined in the acute stage (and great caution, even reticence, ought then to be exercised) say for two or three days or more, then a similar globular mass will be felt in the posterior vaginal wall behind the womb; but it will be firm and tense, because the effused blood has coagulated, and later on it becomes hard. It is this physical condition, so often met with in a certain class of cases—a mass behind the womb crowding it down against the pubic arch—that has given rise to the name of "retro-uterine" hæmatocele, and has led theorists into disputes and embarrassments as to its seat, whether it is intra- or sub-peritoneal. Is the blood effused freely within the peritoneal cavity? or is it beneath and outside the peritoneum? This is a point upon which I hope to be able to throw some light by showing that usually the blood effusion which crowds the uterus downwards and forwards is beneath the peritoneum, and not inside its sac, as commonly alleged; and that in

[1] See case recorded by Drs. Ogston and MacQuibban, British Medical Journal, April 12th, 1879; also by Tomkins, ibid., January, 1873. Tardieu relates cases.

[2] Gallard's case, in a woman about fifty-five, quoted by Poncet; De l'Hématocele Peri-utérine.

cases of true intra-peritoneal hæmorrhage, which are apt to be more formidable, the relations of the effused blood to the womb and adjacent viscera are different. By many writers upon this subject it is assumed that the blood is effused into the peritoneal cavity; and upon this hypothesis they are driven to invent an imaginary "limiting membrane," which they allege bounds the superior limit of the mass, and which, it is asserted, is thrown out by the plastic peritonitis excited by the blood, regarded by them as an irritating fluid; and it may be supposed to account for the fact that the uterus is bodily displaced and thrust downwards and forwards, the phrase "crowded down" against or upon the pubic symphysis being a favourite one. As you will presently learn, there are several forms of intra-peritoneal hæmorrhage, but their physical disposition differs from that now under consideration, which is commonly known as "retro-uterine" hæmatocele, and, in accordance with the views advanced by myself and held by others, is beneath that membrane, and external to its sac.

Let us first appeal to certain physical laws—those of hydrostatics—and, so guided, abide by their arbitration. We may then appropriately inquire what light is derived from clinical investigation and experimental research. Observe, first, that if blood be shed freely into a cavity, such as the peritoneal, it obeys the ordinary laws of gravity, and being fluid, behaves as fluids do in accordance with those pertaining to hydrostatics. That is to say, it flows in directions of least resistance, and accommodates itself to bodies of greater specific gravity by adapting itself to them, instead of displacing them; in short, the blood behaves in relation to the pelvic viscera much as would melted fat, a warm solution of gelatine, or newly mixed and fluid plaster-of-Paris, if poured into the pelvic cavity; it moulds and fixes them in their normal positions. Another point to be remembered in this connexion is that patients suffering from these hæmorrhages are usually compelled to lie down speedily, and that obviously tends to favour gravitation of fluid backwards along the posterior part of the abdominal cavity into the most dependent parts. As the intestines often contain gases they may be displaced superiorly to the effused fluid, but only to the length of their mesenteric tether. On the other hand, if blood be shed into yielding tissues, and be bounded by a membrane, such as the peritoneum, or by resilient tissues encapsulating it, such as the broad ligaments with the pelvic platysma enfolded in them and beneath the peritoneum, what then happens? The limiting or bounding membrane or tissue may offer enough resistance to cause some displacement of mobile or partly mobile organs, such as the uterus, which may accordingly be thrust down in the direction of least resistance, downwards and forwards. But it is alleged by some that the peritoneum is so fragile a structure that it must tear easily, and would burst under pressure so slight that it could never withstand the strain of rapid effusion of blood from ruptured vessels. As evidence to the contrary, consider and weigh the following facts. The late Dr. Radford of Manchester published in the Obstetrical Transactions of London, vol. viii., 1867, an essay on "Cases of Laceration of the Uterus." In Case 15 the woman died undelivered just as Dr. Radford arrived, and he found the abdomen to present two tumours, which, on post-mortem examination, proved to be respectively the ruptured uterus on one side and on the other the fœtus (hydrocephalic) lying underneath the peritoneum in an unbroken sac.[3] In Case 17 an enormous blackish-looking tumour, caused by coagulated blood, was found underneath the peritoneum, extending as far as the right psoas muscle, and also distending the broad ligament. In Case 3, from a pound to a pound and a half of blood was found effused behind the peritoneum as high as the mesocolon. "The peritoneal coat was entire." The late Dr. Roberton,[4] among other cases of "laceration of the uterus in complicated labours," mentions one in which the patient died suddenly and unaccountably, and at the post-mortem examination rupture of the uterus was found, and several pounds of blood had escaped and lay under the peritoneum in the left iliac fossa. Dr. Blundell—a great master, whose foresight into abdominal surgery is too little known or recognised in these days—records a case similar to Dr. Radford's of escape of a fœtus from a ruptured womb into a pocket formed by the unlacerated peritoneum. This case occurred in the practice of Mr. Barlow of Blackburn, who deserves undying renown for having boldly forthwith performed abdominal section, whereupon he discovered rupture of the muscular substance without rupture of the uterine peritoneum. The patient recovered rapidly.[5]

Again, a woman admitted into the West Riding Asylum for puerperal mania died suddenly from pelvic hæmatocele, and at the inspection the effused blood was found to rise up to within an inch of the umbilicus, fully occupying the hypogastric and inguinal regions, and to be beneath the peritoneum, that membrane being raised up entire.[6] Mr. Morris[7] mentions a case of rupture of the bladder in a boy upon whom the late Mr. Lyell operated at the Middlesex Hospital by abdominal section, believing that effusion of urine, &c., had occurred into the peritoneal cavity, but neither fluid nor opening could be found. The boy died, and at the post-mortem examination a large quantity of effused blood was found behind and outside the peritoneum, overlying the spine, and in the right iliac fossa. Hæmorrhage had also taken place into the mesentery. "The peritoneum was separated from the anterior abdominal wall just to the right of the symphysis pubis, and was much bruised by the broken pelvis, but not torn anywhere." Mr. Heath[8] records a similar case in a man aged thirty, and Dr. Skerritt has recorded a case of abdominal aneurysm treated by distal compression, in which the aneurysm became diffused; and at the necropsy, seven weeks after compression, rupture was found to have taken place into the retro-peritoneal tissue, forming an enormous false aneurysm composed of soft dark clot and dark fluid blood.

The evidence already adduced is irrefragably conclusive that the peritoneum will bear suddenly produced strain to an enormous extent without rent; but a crucial test *ad hoc* is furnished by a case of Baumgartner's,[9] which he correctly diagnosed as a subperitoneal hæmatoma, and upon which he operated by abdominal section, finding the tumour to be completely covered by peritoneum. Again, a distinguished American physician, Dr. Fordyce Barker, in his admirable work on "Puerperal Diseases" quotes a case from Perret in which a thrombus was found post mortem filling the left lateral half of the pelvic cavity, and the infiltration of blood had extended into the subperitoneal tissue of the abdomen. Dr. Gowers,[10] speaking of splenic leucocythæmia, mentions that subperitoneal hæmorrhage (as well as intra-peritoneal), may occur in that disease. A case of rupture of a fusiform aneurysm of the left common iliac artery, producing an enormous hæmatocele, lying behind the peritoneum and extending from the scrotum below (where it formed a sausage-shaped tumour) up to the level of both kidneys along the back of the abdominal cavity, recorded by Dr. Uthoff of Brighton, is very instructive.[11] Chaussier[12] relates a case of sudden death in a woman pregnant five months where a large effusion of blood was found beneath the peritoneum, extending from the right iliac fossa to the kidney (Poncet). Moreover, the experiments of Tripier, made at the suggestion of Poncet, by injecting liquid coloured with Prussian blue into the uterine annexes, showed that the peritoneum readily stripped up from the subjacent tissues, and that it required a pressure of two atmospheres to rupture the peritoneum, as was determined by the manometer. Baumgartner's analogous experiments yielded similar results.[13] The peritoneum, then, displays marked distensibility under rapid strain, and will peel up with great celerity even under the stress of solid bodies, such as the fœtus, and still more under hydraulic pressure. And then, with reference to the supposed deleteriousness of blood when shed into the peritoneal cavity: that is hypothetical, not to say imaginary. Its innocuity is shown by experiment, as well as proved by clinical experience; neither plastic exudation nor peritonitis is necessarily excited by the effusion of *pure* blood. Again let me appeal to evidence. Of late years quite a number

[3] Dr. Radford's words are: "On opening the abdomen the peritoneum appeared perfectly free from disease; nor was any fluid discovered in its cavity.....The uterus, which was very large, formed one segment of the tumour—viz., the left—and the child's body, covered by the peritoneum, the other. Upon making a very careful examination of these parts, not the smallest laceration was discoverable in any part of the peritoneal covering. An incision was made through this membrane, which exposed the body of the child." A diffused clot was also found under the peritoneum with the child's body. [4] Essays and Notes, pp. 226-7.

[5] Blundell's Principles and Practice of Obstetricy, p. 704.
[6] THE LANCET, July 10th, 1874. [7] Ibid., July 7th, 1883.
[8] Ibid., May 12th, 1877, Injury of Pelvis with Rupture of Bladder and Abdominal Aorta.
[9] Ueber Extra-peritoneales Hämatom., Deutsche Med. Woch., No. 36. 1882. [10] Reynolds' System of Medicine, vol. v., p. 257.
[11] British Medical Journal, January 10th, 1880.
[12] Mémoires et Consultations de Médecine légale.
[13] A. Baumgartner's "Ueber die Ablösbarkeit der Peritoneums im Becken," Centralb. f. Gynäk, No. 42, 1882.

of experiments have been made upon the tolerance of the peritoneum for blood when poured into it artificially. Vulpian and Laborde, Franck, Ponfick, Bizzozero and Golgi, Arloing and Tripier, Livon, Toussaint, Penzoldt and Cordua, have all made corroborative observations. Von Recklinghausen,[14] according to Ziegler,[15] first investigated with success the process of absorption of foreign substances in the abdominal cavity—e.g., milk, tinted liquids, and blood; but recent researches by already named observers are still more conclusive. Poncet,[16] alluding to the experiments of Vulpian and Laborde of injecting blood into the peritoneal cavity, says that they throw light upon the little known tolerance of the peritoneum for large quantities of blood and its rapid absorption, and show in a peremptory manner the impossibility of provoking encystment of sanguineous effusions in mammiferæ when the peritoneum is quite healthy. Franck's[17] experiments are also striking and conclusive. He found blood transfused either directly from the carotid of one animal into the peritoneal cavity of another or after defibrination, to be absolutely absorbed within a little over a week, as was shown by post-mortem examination of the animals. Arloing and Tripier's inquiries gave identical results, even when large amounts of blood were used, as much as one-tenth the weight of some of the creatures. The results of M. Livon were similar, the blood was always promptly absorbed, and there was never peritonitis. M. Toussaint, Professor in the Ecole Vétérinaire de Toulouse, made like observations on large as well as small animals (using asses, sheep, &c.) with corroborative results, except in the case of an ewe which, like sheep generally, did not bear operation well. Poncet comments upon the prodigious rapidity with which large quantities of blood were absorbed from the peritoneal cavities of twenty-four animals. Penzoldt and Cordua have studied histologically the characters of the blood, and found defibrinated blood to be most rapidly absorbed. Bizzozero and Golgi[18] made observations on the influence of peritoneal transfusion of blood on the globular richness of the blood in the circulating apparatus, and found that it was rapidly enriched. Ziegler[19] remarks that the rapid absorption of blood from the peritoneum has a practical value, and suggests the possibility of similar successful transfusion in the human subject, and I think I have somewhere seen accounts of such a case, but I cannot find the reference.

It should be recognised that there are two distinct classes of pelvic or pelvi-abdominal blood effusion, and that either may arise from several, and in some cases identical lesions. First, there is that which is always external to the peritoneum—e.g., as between the broad ligaments, or rectum, bladder, and uterus, and beneath the peritoneum of the pelvic and pelvi-abdominal regions, where fused with the pelvic platysma (Rouget's muscle), arising from burst veins, &c. Secondly, that which is within the sac of the peritoneum, a large and important class, comprising rupture of ectopic gestation sacs, burst varicose or other veins of the utero-ovarian plexus, whether in the pregnant or non-pregnant (illustrations were given), from burst uterus (one horned or other); from hæmato-salpinx or burst Fallopian tube, or ovary; from aneurysm, ruptured atheromatous artery within the abdomen, burst bladder, and various traumatisms; from bleeding from the Graafian follicle in hæmatolytic conditions; from regurgitation through the Fallopian tubes, burst spleen, liver, or kidney; from exhalation of blood from the peritoneum, without recognisable lesion, as seen in purpuric states, acute specific diseases (e.g., small-pox), and after phosphorus poisoning; in short, in hæmatolytic conditions, however produced. These large, profuse, and sudden intra-peritoneal hæmorrhages have been well named cataclysmic by Dr. Barnes, and may be of deadly import.

Let us now learn what happens when blood is shed freely into the peritoneal cavity. If pure blood only be shed, the irritation from its mere presence *qua* blood is not severe, although death may speedily occur from collapse, and be preceded by convulsions. In conformity with the laws governing fluids, it does not collect only in the pelvis, but also flows backwards along the hinder part of the belly cavity, this reflux being favoured by the lying down of the patient. Nor, when pure, does it excite peritonitis, and thus provide an encysting capsule. That hypothesis is invoked by those whose minds are dominated by preconceptions as to the acrid or irritating action of blood upon the peritoneum. It is beyond question that patients suffer severely in various ways, from loss of blood, and so on; and probably in some cases the material effused is not pure blood, but either blood whose vitality is damaged or impaired (perhaps putrid), or matters from extra-uterine gestation sacs and the like, as foul blood from the tubes, ovaries, tumours, ruptured bladder growths, and so on. Hæmorrhages from malignant intra-abdominal growths are hardly within our present purview.

When patients do not sink under acute loss of blood internally, the physical condition found per pelvem in most cases (i.e., where pure blood alone is effused into the peritoneum) is that of fixity of the pelvic viscera in their normal relations and positions. This I have repeatedly verified in cases of intra-peritoneal hæmorrhage. When the blood is damaged, clotting may be absent or long deferred if the patient survive.

Let us now turn from the topical to the general or systemic symptoms of pelvic hæmatocele. As most of the early symptoms have already been mentioned, a brief recapitulation will suffice. The one-sided pain of a sharp character low down in the pelvis and down the genitals and thighs; the breathlessness, collapse, and, in very severe cases, convulsions from loss of blood; the cold sweats, the thirst, vomiting, and low temperature of the body; the attitude, the legs so significantly drawn up, the one on the side of the lesion usually the more so; the thready, flickering pulse; the dysuria and bearing down in the privates—all tell their tale plainly enough. Uterine epistaxis, metrorrhagia, or menorrhagia are frequent, almost constant, accompaniments.

Later on there will be feverishness when reaction supervenes. The tongue becomes dry, glazed, and striped, ribbon-like; it is the "pelvic tongue." The pulse becomes quick. The abdomen enlarges either from distension or from encroachment of the tumour upwards, as in many of the sub-peritoneal forms—the "hæmatomata," or "thrombi," as some prefer to designate them. Here I wish to mention another special symptom observable in hæmatoceles, the presence of which is constant, and of which I have satisfied myself by observation of many cases during the past fourteen years. It is that of an icteric or jaundiced hue which overspreads the surface after a few days. I was first made acquainted with this about 1870 in the person of a patient at the West London Hospital, who came under my care, in the first place as an out-patient, when I found a huge pelvic hæmatocele in the recent and fluid state. I at once admitted her into hospital, and in a few days the mass became firm and solid. It rose as high as the umbilicus, and almost blockaded the pelvis. I diagnosed a subperitoneal effusion, and watched the case carefully. After about a fortnight or more she became so distinctly yellow that a colleague remarked that she was a good case of jaundice. He was not a little surprised when I informed him that observation of her motions showed no want of bile, and that chemical tests of her urine yielded no evidence of presence of bile—that, in short, the case was not of biliary origin, but one of hæmatic jaundice, due to absorption of the colouring matter of the blood from the large effusion. Since that time I have been on the alert to observe all cases of hæmatocele whether occurring in hospital or consultation practice, and with invariably corroborative results. Of course the amount of icteric hue will depend partly upon the amount of effusion and partly upon its seat. Fortunately for the corroboration of this clinical manifestation a case of traumatic scrotal hæmatocele was admitted into the West London Hospital a few months after the observation of my pelvic hæmatocele case. It occurred in the person of a young man aged about twenty-four years, and was of considerable volume. Being present on his admission, and finding there was no wound, I begged my surgical colleague, under whose care he fell, to do me the favour of refraining from incising the scrotum to let out the blood-clots, explaining to him my object, and predicting that in a few weeks the patient would become icteric. Accordingly only spirit lotion was applied, and in due course the young man became quite yellow as the effused blood was absorbed. There was, moreover, no sign of biliary implication. Dr. Ginders of Normanton, surgeon to the railway works there, who has seen many cases of traumatic scrotal hæmatocele, kindly informed me, in reply to inquiries upon the point, that when he refrained from opening the scrotum the men not only became yellow, but some were actually green, an observation which tallies with the spontaneous remark

[14] Virchow's Archiv., vol. xxvi.
[15] Special Path. Anat., Transl. by Macalister. Part II., pp. 125 6.
[16] Thèse de l'Hématocele Peri-Uterine. Paris, 1873.
[17] Ibid.
[18] L'Osservatore, Nov. 4th, 1879, p. 689; Della trasfusione del sangue nel peritoneo, &c.
[19] Loc. cit., p. 128.

of a lady who suffered from a severe pelvic hæmatocele, that she became "sage-green." This condition of hæmatic jaundice agrees with the "Ictère Hématique Traumatique" of Poncet, and has analogies with the "Ictère Hémaphéique" of Gubler; it is due to rapid absorption of the colouring matter of the blood—the hæmoglobin. It is also akin to the icteries witnessed in other hæmatolytic affections, as in paroxysmal hæmoglobinuria (or, as I have formerly suggested, paroxysmal hæmatolysis or hæmatolysuria), chlorosis, icterus neonatorum, and blood poisons (animal—e.g., snake and other). The urine shows the source of the pigment to be the blood by the presence of colouring matters in excess—urohæmatin, &c.; and chemical and spectroscopic evidence is corroborative. The observations of Ponfick, MacMunn, Poncet, and others support this view. The clinical value of this symptom of hæmatic icterus has to myself been very great. It was well illustrated in a case seen by me with Dr. Lacey, also in one with Dr. Walker and another with Mr. Moon, and was helpful recently in one seen with the Messrs. Shillitoe, senior and junior, at Hitchin, besides in many others. Very notably, also, in a case recently in St. Mary's Hospital, where internal hæmorrhage to a considerable amount occurred from the stump of an old ovarian pedicle, after exertion, in a woman on whom I performed ovariotomy several years ago. This patient was so sallow that the general impression was that she had cancer, but her recovery verified the diagnosis of hæmatic jaundice. The yellowness beguiles many into the belief that "liver disorder" is present; and I have known horse exercise and blue-pill ordered for a lady whose pelvis was blocked with effusion. I mentioned that puberty and the menopause were not free from pelvic hæmatoceles. I have seen examples of both in consultation: one at the change of life notably with Mr. Moon of Norwood, and others at various times with other gentlemen.

Among the causes of one form of pelvic hæmatocele I have already mentioned bursting of extra-uterine pregnancy sacs, especially in the tubal variety. This cause is by some alleged to be the only one in pelvic hæmatoceles, but that inference or assertion is erroneous if imposed as absolute, although no doubt a large proportion of cataclysmic hæmatoceles own this origin. The class is unquestionably a large and important one, and I have myself seen several cases, some in consultation with Dr. Alderson, Mr. Mason, Mr. Duke, Mr. Senior, Mr. Parrott, and other gentlemen; others in public and private work. I show you specimens of ruptured tubal sacs and of fœtal relics from a case seen with Dr. Alderson. In these cases, when an accurate diagnosis is attainable, prompt operative measures may be required to save the patient, although they do not all die, for among the cases above alluded to only one proved fatal (the one seen with Mr. Mason), the patient succumbing a few hours after I saw her, without any operation being practised.

Among the causes of pelvic hæmatocele must be mentioned bursting of a vein in the utero-ovarian (or pampiniform) plexus, whether varicose or no. It is probable that this occurs in many of the subperitoneal cases, but it may also give rise to intra-peritoneal bleeding. The stress thrown upon the vascular apparatus of the pelvis during the menstrual nisus is great, and under abnormal conditions, such as chills, suppression of menses, emotions (erotic and other), and so on, weakened vessels may give way, as has been verified by many post-mortem examinations. An internal hæmatoma or thrombus thus produced has analogies with those occurring in the labia externally from various causes; and, like the latter, are no doubt in some cases vicarious. Cases illustrative are recorded by Jacquemier, Puech, Lissner, and Ledouple; and Billroth alludes to episio-hæmatomata. The venous plexus, internal and external, are *erectile* structures.

Rupture of Graafian vesicles is attended by a small hæmorrhage into the follicle normally, but under hæmatolytic conditions this slight "menstruation of the follicle" as it is called, may become excessive, and produce great internal loss. The specimens I show you illustrate this possibility. Certain writers on pelvic hæmatoceles allege that they chiefly arise from rupture of neo-membranes produced by pachyperitonitis. Bernutz advocates this view, which undoubtedly is a restricted one. This preliminary pachyperitonitis is sometimes invoked and formulated to help out the hypothesis as to encapsulation. It doubtless does occasionally happen that neo-membranes form, and they may yield blood on being torn; but it is doubtful whether they are at all a frequent source of hæmatoceles. Virchow first called attention to the formation of neo-membranes and possibility of some hæmorrhage from laceration of young vessels, but large effusions from such sources are rare. Traumatic rupture of ovarian cysts may cause serious trouble and internal hæmorrhage, as in a case seen by myself in consultation with Dr. Oldham, Dr. Swann of Dublin, and Mr. Skelding. The patient recovered, and remains well. Rupture of the uterus, in the lower segment particularly, is an occasional cause, and was present in a remarkable case I saw in consultation with Dr. Owen Roberts, where a large effusion of blood was produced within the folds of the left broad ligament from spontaneous rupture of the lower segment of the womb during labour a week after the accident of slipping on the patient's doorstep. Reflux of menstrual blood through the Fallopian tubes is asserted by some writers to be a frequent cause of pelvic hæmatocele. Probably this is extremely rare, and the evidence of its occurrence is by no means conclusive. Its possibility must be admitted, but it is remarkable how rarely anything of the kind occurs in imperforate hymen and other atresial conditions preventing the escape of menstrual fluid.

A very serious condition rarely met with is that in which an enormous quantity of blood is found post mortem in the peritoneal cavity, without discoverable source, and apparently from exhalation. I have seen one such case (I think with Mr. Mason), where we could find no lesion to account for the bleeding. I do not say there was none; but we failed to find any. In some of these cases the blood may resemble that of purpura—in short, maybe a form of hæmatolysis, and in such cases it never clots. A case of peritoneal exhalation is actually recorded by Mollière in the subject of hæmophilia. My own clinical observation leads me to the conviction that there may also be a form of pelvic hæmatocele due to lesions in the nervous centres. Drapier's case, mentioned in his thesis "L'Hématocele Rétro-utérine consécutive à la Pelvi-péritonite" (p. 16), is an illustration.[20] I have met with a somewhat analogous case, which was seen with me by Dr. Ferrier. The researches of Nothnagel, Brown-Séquard, Vulpian, Jehn, and Charcot respecting hæmorrhages into the lungs and other viscera consecutive to cerebral lesions are interesting and suggestive in this connexion; while Andral cites a case from Serres of hæmorrhage from the sexual organs of an aged woman from cerebral hæmorrhage, and of priapism in men from like lesions, showing influence over the sexual zone. Dr. Savage's case (Bethlem) of "melancholia passing into partial dementia, following childbirth, which recovered suddenly and permanently after formation of retro-uterine hæmatocele," is suggestive, as also is the influence of emotion and shock.

Probably lesions of the spinal and sympathetic systems may be operative, especially when the latter implicates the vaso-motor system, which it so largely influences. Vulpian's observations in his "Leçons sur l'Appareil Vaso-moteur" are suggestive; and so also are those of Marotte,[21] who cites the influence of lumbo-sacral neuralgias on the production of hæmatoceles; and Cohen's on congestions seen in ileo-lumbar forms of neuralgia which provoke congestions of the womb and its annexes. It should not be forgotten in this connexion that embolism of the mesenteric arteries is attended by hæmorrhage from the bowel, the mechanism whereof has been shown by Vulpian.[22] Considered in their entirety, then, the various hæmorrhages which may occur in connexion with pelvic and abdominal lesions, and which for clinical purposes may be grouped under the comprehensive term pelvic hæmatocele, form an important class, some acquaintance with which is demanded from the diagnostician who desires not to be led astray by preconceived notions which would limit and hamper his grasp of the subject.

As to the treatment of pelvic hæmatoceles, the cardinal injunction in most cases is absolute rest and opium. The value of opium is here transcendent. It tranquillises, relieves pain, and enables the exhausted and collapsed patient better to bear the blood loss, while it compels repose, both mental and bodily. But to procure these desirable ends it must be given in full doses, and be repeated as may be necessary. The best method is to give it in one-grain

[20] Drapier gives it under the following heading:—"Hémorrhagie cérébrale; coma; mort. Autopsie: Vaste foyer hémorrhagique dans le lobe moyen de l'hémisphere droit; épanchement dans le ventricule latérale correspondant; aneurysms miliares; hématomes rétro-utérines; hématomes ovariens.

[21] Considérations Nouvelles sur la Pathogénie de l'Hématocele Rétro-utérine. [22] Leçons sur l'Appareil Vaso-Moteur, vol. ii. pp. 445-6.

doses of the solid opium, either in pill or powder. Next to solid opium, Battley's sedative solution of opium is good; but morphia is much less useful in these hæmorrhages, especially in the cataclysmic forms. Ice and brandy, champagne, or other suitable stimulants may be requisite; and, above all, Valentine's meat-juice is most valuable. Peptonised meats and other foods (Benger's, Darby's, and others) may be useful adjuncts. In certain cases the hypodermic injection of ergotinine of Tanret (Paris) may be helpful, and tincture of hamamelis may help in certain forms. The bladder should be relieved by catheterism with antiseptic precautions, as may be required. The use of astringents, such as gallic and other acids, is not great in these accidents, nor can I recommend the use of heavy bags of ice to the abdomen. But besides medical treatment, certain grave surgical questions arise in some cases, and demand urgent solution: for example, in cases where there are reasonable grounds for suspecting the source of internal hæmorrhage to be a ruptured tubal or other pregnancy, and in similar accidents, such as bursting of a vein in the pampiniform plexus or elsewhere, where the diagnosis is sufficiently clear; in short, in those cataclysmic intra-peritoneal bleedings where rapid dissolution is threatened prompt operation may not only be justified, but become imperative to rescue the patient from impending death. It must not be forgotten, however, that even in ruptured ectopic gestations many patients recover without operation, as has happened several times within my own experience. The difficulty of accurate diagnosis is no doubt sometimes great, but not always; and when the well-balanced judgment arrives at reasonable grounds for belief that hæmorrhage threatening to be rapidly fatal is going on unchecked from a controllable vascular lesion, then a bold, but not rash, interference is justifiable, and in these days of heroic abdominal surgery laparotomy should be done without delay.

During the later stages of pelvic hæmatoceles watchful supervision of the patient is necessary. The bladder should be carefully attended to with scrupulous cleanliness and great gentleness. Bedsores should be prevented if possible. The bowels as a rule should be seldom opened. The mouth often becomes sore from the glazy and raw condition of the tongue and lips, therefore all food should be bland. Sedative mouth-washes give much relief (borax, myrrh, wine of opium, mucilages, and orange-flower or rose-water). The better patients are fed and cared for the sooner does the effusion disappear according to my experience. Care should be taken to guard against relapses or exacerbations, which are apt to occur about the time of the next catamenial period. I have been able occasionally to predict a fresh effusion at these epochs; and when such happens, it is followed by fresh manifestations of hæmatic jaundice. There is periodicity about these forms of hæmorrhage, and the explanation of effusions occurring at the inter-menstrual or fortnightly periods is that it is part of a minor nisus that happens then. The condition of the vascular system will warn the physician, and the sphygmograph or finger may indicate increased arterial tension, while the eye can see the venous turgescence. Undue vascular excitement may be reduced by aconite, amyl-nitrite, nitro-glycerine, the bromides, &c. The pelvic viscera may be quieted by actæa racemosa, monobromide of camphor, Indian hemp, conium, gelsemine, and so on, given internally, and by vaginal pessaries of iodoform, conia, morphia, atropia, &c., or by rectal suppositories. An atmosphere of turpentine about the sick chamber is good, both for styptic and purifying influences. With reference to the puncture of hæmatoceles, I should, as a rule, deprecate opening, and would counsel caution in resorting to any operative measures. Should relief become necessary in the later stages from suspicion of suppuration or decomposition of blood, or from clear evidence of intolerable or dangerous tension, then aspirate by the vagina and not by the rectum; but operation is generally undesirable, and should be carefully resorted to. During convalescence sea air and water will be found beneficial, and where absorption is tardy poultices of scalded seaweed and brine baths are essential. The air of Harrogate is also good as promoting metaboliam, and occasionally iodine waters, notably those of Woodhall Spa, Horncastle, are good.

In conclusion, let me ask you to remember the two clinical points I would urge: the behaviour of effused blood according to its position, intra- or extra-peritoneally, and the symptom of hæmatic jaundice, slight or well-marked, from absorption of the colouring matter of the blood, and I believe you will find them helpful in your bedside practice.

LONDON TEACHERS OF ANATOMY: A RETROSPECT.

BY CHARLES HAWKINS, F.R.C.S.

IN the obituary of Mr. Cæsar Hawkins, published in THE LANCET of July 26th, it is stated that "he was the last member of the great Hunterian school founded by William Hunter in Great Windmill-street." Perhaps a few notes relative to those who taught in that school, as well as to some of the early days of anatomical teaching, will be interesting.

William Hunter may be said to have been the founder of anatomical schools in London. The first Act of Parliament respecting the practice of anatomy was passed in 1540, in which it was recited "that the masters and governors of the Mystery and Commonality of Barbers and Surgeons in London should take the bodies of four persons condemned and adjudged and put to death; and make incision of the said dead bodies, or otherwise to order the same after their said discretion and pleasure for the further and better knowledge, instruction, insight, and learning in the said science or faculty of surgery." This Act was repealed by the Anatomy Act of 1832. The "Readers in Anatomy" at Barber-Surgeons' Hall were at first supplied by the College of Physicians. Caius, the pupil of Vesalius, is said to have been the first. In 1566 the United Company of Barbers and Surgeons passed a bye-law that no private anatomy be dissected out of the Hall under a fine of £10. In 1596 Dr. (afterwards Sir William) Paddy was appointed Reader; in 1609, Dr. Gwynne; in 1649, Dr. (afterwards Sir Charles) Scarborough; in 1703, Dr. Mead. In 1629 the Company ordered "that the ancientest master should read the lectures, and so after every surgeon in his antiquity and degree in the Company." In 1645 Edward Arris paid £300 for the Company to establish an annual public anatomy; in 1698 it was ordered "that there be an anatomy lecture called Gale's Anatomy."

In the beginning of 1700 private lecturing commenced. Cheselden, then twenty-two years old, lectured in 1711; Frank Nicholls in 1728; Nourse of St. Bartholomew's Hospital lectured at London House in Aldersgate-street in 1730; Bromfield of St. George's Hospital was elected anatomical demonstrator at Barber-Surgeons' Hall in 1744, Cheselden being one of the wardens. In 1746 William Hunter, a pupil of St. George's Hospital and a Member of the Corporation of Surgeons in 1747, succeeding Sharp, his teacher, commenced a course of lectures to a "Society of Navy Surgeons" in Covent-garden in the evening; but Garrick, at that time appearing at another theatre, was a rival Hunter could not compete with, and finding his theatre deserted was compelled to lecture in the afternoon. At this period the courses of lectures were not extended over a length of time. Bromfield comprised anatomy and surgery in thirty-six lectures; Nicholls professed to teach anatomy, physiology, and midwifery in thirty-nine; Nourse, the whole of anatomy in twenty-three. Hunter's first lecture produced about seventy guineas, which he carried home in a bag, remarking that it was a larger sum than ever he had been master of; this was the nucleus of the fortune he subsequently acquired which enabled him to spend £100,000 on that magnificent collection now at Glasgow, although it is recorded that he was obliged to postpone the commencement of his third year's lectures on account of not having the wherewithal for necessary advertisements. He continued to teach in, I conclude, the house of his master, Douglas, where he lived until he removed, about 1750, to Jermyn-street. In 1755 he admitted his brother as a partner in his lectures; this arrangement ceased upon John Hunter going abroad in 1761, and was never renewed, so that he was not a member of the Great Windmill-street School. At this time he was joined by Hewson; they parted company in 1770 upon a personal misunderstanding, he building a theatre in Craven-street, where he lectured, but died after a short illness in 1774.

In 1765 William Hunter applied to the Government to have granted him a piece of ground, part of that on which the National Gallery now stands, that he might erect a building fit for the purpose of a School of Anatomy, and supplied a plan "for a museum in London, for the improve-

ment of anatomy, surgery, and physic." Upon this being declined, he commenced building the Hunterian School in Great Windmill-street, comprising a mansion, museum, theatre, and anatomical department. He removed into the house in 1768, resigning his house in Jermyn-street to John Hunter, where he lived until he removed to Leicester-square in 1783. Most accounts give the date as 1770; but the lists of the College of Physicians show that his address in 1767 was Jermyn-street, and Great Windmill-street in 1768. In 1771 he was joined by Cruickshank, who lectured until the day of his death in 1800. On March 15th, 1783, he commenced a course of lectures on Surgery, but was removed from the theatre in an insensible state, to die on the 30th of the same month. In 1784 his nephew, Mathew Baillie, joined Cruickshank in lecturing, and continued to do so until 1799. In 1785 James Wilson, a pupil of William and John Hunter, commenced as demonstrator to Baillie, and when he quitted the school he became joint lecturer with Cruickshank, and continued teaching until his death in 1821, which was as sudden as his predecessors', Hunter and Cruickshank. In 1807 Wilson purchased the freehold of the premises in Great Windmill-street, and inhabited the house, as Hunter and Baillie had previously done. He subsequently sold the property, reserving the school part of the premises on a lease. When Honoratus Leigh Thomas began to teach in Great Windmill-street I am not certain. Brodie found him there in 1802, and says in his Autobiography:—"He delivered only a few anatomical lectures. He was not fond of his vocation as a teacher, and was led to play truant a good deal." In 1805 he resigned, when Brodie commenced to teach in Great Windmill-street, which he continued to do until 1812, when Wilson proposed that he should take the school off his hands. This offer he declined, not possessing the funds required for the transfer. Thus ended his career as a teacher of anatomy. In 1808 he had commenced lecturing on surgery, and on parting from Wilson he took a house in Great Windmill-street, where he built a theatre and museum; these lectures he continued until 1830, when the school removed to St. George's Hospital. On Brodie's retirement from the school in 1812 Charles Bell joined Wilson. He had commenced lecturing in London in 1806. In one of those most interesting letters published in 1870—which anybody wishing to have an insight of medical society at the commencement of the present century should read—he says: "I resolved to remain in London, and took a large ruinous house in Leicester-square, previously inhabited by Speaker Onslow. When I got into the house, the first night I slept in it, I had put out the candle, and leaping into bed, the floor gave way under my foot, and I found that I had displaced the board. On examining this in the morning I discovered a tube under the loose board; it was the house where the 'invisible girl' exhibited!" In a letter, October 7th, 1812, he says, "I gave my first lecture yesterday in Great Windmill-street. I gave an hour and a half to a full class; there were from eighty to a hundred, not gathered for the occasion, but pupils of the class." His brother-in-law, John Shaw, assisted him in his lectures and dissections until his death, which took place in 1827. In one of his letters at this time he says: "I have lost my dear and best friend, John Shaw. There is such a blank, I have not an idea left." In 1828 Bell opened the Medical School at University College, then called London University. On the institution of this school, Sir Benjamin Brodie was solicited by the Council to undertake the duties of either professor of anatomy or surgery, with any assistants he might wish to have. In 1826 Herbert Mayo and Cæsar Hawkins purchased Bell's interest in the school, he continuing to lecture in the session 1826-27, and they carried on the school until October, 1830, when Cæsar Hawkins left for the opening of St. George's Hospital School, and Mayo in 1831 for King's College. In the winter session of 1830-31 Mr. Thomas Tatum gave the anatomical demonstrations. Subsequently, Mr. Gregory Smith and Mr. Bushell delivered lectures. Mr. Smith afterwards removed to the school in Little Windmill-street, where Mr. Prescott Hewett joined him in October, 1836, as demonstrator previous to his being house-surgeon at St. George's Hospital in 1838.

I venture to add some criticisms on these I have mentioned as teachers. Baillie said of William Hunter: "He excelled very much any lecturer whom I have ever heard in the clearness of his arrangements, the aptness of his illustrations, and the elegance of his diction; he was perhaps the best teacher of anatomy that ever lived." Brodie, born the year William Hunter died, says in his Hunterian Oration, delivered in 1837: "Hewson partook in no small degree of his master's zeal and industry, and his works show how much may be accomplished by means of these qualities when infused into a mind of moderate dimensions. Cruickshank, over-sensitive and hypochondriacal as he was from disease, was much superior to Hewson; his physiological papers in the Philosophical Transactions and his treatise on the absorbent vessels exhibit a combination of genius and learning, and justify us in assigning him a very high place in the scale of men of genius." And in his Autobiography he says of Wilson: "He had a most profound knowledge of his subject, and his demonstrations were very far superior to those of any other anatomist of that day"—and I may, I believe, add to those of any one since.

In writing this sketch of a school I have been struck with an interesting intellectual lineage. A sister of William and John Hunter was the mother of Mathew Baillie and his gifted sister, the well-known authoress. Baillie married the daughter of the celebrated Dr. Denman, the father of the first Lord Denman, distinguished as a great lawyer. Dr. Denman married the aunt of Sir Benjamin Brodie. The second Sir B. Brodie, by his writings in science, gave evidence of his claim to be ranked as a distinguished professor of chemistry. Dr. Baillie's son, Mr. William Hunter Baillie, is one of the present trustees of the Hunterian Museum at the College of Surgeons.

Savile-row.

OSTEOTOMY FOR GENU VALGUM.[1]

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OSTEOTOMY, as a means of cure of genu valgum, has been before the profession now for about seven years, and during the last three or four it has been very extensively adopted by surgeons over the civilised world. The present is therefore a fitting time for eliciting an expression of opinion concerning it. From the manner in which the subject has been framed, I apprehend that we are not to discuss the various methods of treatment of genu valgum, but that we are to confine our attention to osteotomy for that disease. In the limited time at our disposal it is necessary that we confine our attention to a few points only. I have considered that the two following could be discussed with advantage:—

1. The various methods of performing osteotomy for genu valgum and their comparative qualities.
2. The results of these operations.

As to the first point, we have to consider whether the intra- or the extra-articular method ought to be adopted, whether the femur or the tibia ought to be selected for the operation. It is presumed that all of the members are sufficiently acquainted with the descriptions of Ogston's (and its various modifications), Billroth's, Schede's, Chiene's, and Macewen's operations to render it unnecessary to say anything on these points. It would be out of place in me to say anything as to the comparative qualities of these operations, considering my close connexion with the last one mentioned. I have the more reason for doing this as I know that the gentlemen whose names are most closely identified with the various operations are present. Regarding the second question, I have gathered statistics which will help the members in forming a conclusion on the subject.

A schedule was drawn out, asking for statistics concerning osteotomy for genu valgum, and a copy was addressed to every hospital surgeon in Britain. Replies have been received from about forty-five surgeons, but only thirty-seven of these have been able to answer the questions sufficiently fully to permit of them being of value. The statistics received have been formed into a table, which is here presented to the members of the International Medical Congress. The table must not be understood to be a complete one, inasmuch as many surgeons have not been able to reply, which it is hoped they will yet do. With regard to continental and American surgeons, I trust to be able to arrange a similar scheme by which they may be inclined to favour

[1] A paper read as introduction to a discussion on Osteotomy for Genu Valgum, International Medical Congress, Copenhagen, 1884.

me with their results, so as to obtain as wide a basis for deduction as possible. The table as it stands is made up of statistics furnished by thirty-seven surgeons. They have operated on 1118 limbs. In some instances only have the number of patients, as well as the number of limbs, been given. The ages of the persons operated on extend from three to thirty-nine years. The operations which have been chosen by those thirty-seven surgeons are as follows:—

Three surgeons have performed Ogston's exclusively; eight surgeons have performed sometimes Ogston's, sometimes another operation. Eleven surgeons in all have used Ogston's operation; these eleven surgeons have operated on 525 limbs, one gentleman alone having performed 370.

Chiene's method has been used exclusively by one surgeon, Professor Chiene himself. One surgeon has twice performed Chiene's along with another method of osteotomy. Two surgeons have thus performed Chiene's operation; these two have performed operations on fifteen limbs.

No one has operated by Schede's method exclusively. Two surgeons have performed occasionally Schede's operation; these two surgeons have operated by Schede's method on five limbs.

Twenty-two surgeons have used Macewen's method exclusively. Eleven surgeons have used Macewen's method occasionally, giving a total of thirty-three surgeons out of thirty-seven who have used Macewen's method; these thirty-three surgeons have operated on 580 limbs.

The next question referred to accidents during the operations. Hæmorrhage is mentioned in two of Macewen's, in thirteen of Ogston's, and in one of Chiene's. The knife was broken off in the joint in one of Ogston's. As to the conduct of the operation, thirty-four of the surgeons used spray and other Listerian precautions, while three conducted the operation by the open method.

The progress under treatment shows that thirty-two cases of Macewen's operation afterwards suppurated, eight cases of Ogston's, and one of Chiene's—that is, forty-one in all have suppurated. Of fatalities there are five cases in all after Macewen's operation. One from blood poisoning (this though stated to be Macewen's operation was not in reality such), one from septicæmia, one from phthisis, one from congestion of the lungs, and one from scarlet fever. In the last three the operation is not credited with the result. Of recoveries there have been 1113 out of 1118 limbs. The results as to utility of limbs show that anchylosis has taken place in two of Macewen's operations, in four of Ogston's (one with dislocation of the patella), and in one of Chiene's. In two of Ogston's bow legs resulted after the operation. All the others were good.

As to relapses after the operation, Macewen's operation has been followed by four such, mostly occurring in young children (one stated to have recovered after using supports for a short time is not counted). One gentleman who has performed both Ogston's and Macewen's has had three returns to the deformed condition. In one of Chiene's there was a return, but in this case the patient had led an irregular life. In one of Chiene's, amputation had to be resorted to about a year after he had performed his operation. The amputation was rendered necessary by the onset of gelatinous degeneration of the synovial membrane. The average duration of treatment has been from one to three months. Mr. Chiene, however, states that he only keeps his patients in the wards for twenty-two days after the operation. Regarding the answer to this question, it is evident that considerable difference of opinion exists as to the meaning of it. Some give the number of days necessary for the patient to remain in bed, while others give the time necessary to fit him for resuming his work.

Statistics of my own Operations.—Up to July 31st of this year I have operated on 804 limbs belonging to 490 patients, and on these have performed 820 osteotomies for genu valgum. The ages have been from seven to forty-six years; the great majority being adolescents. The operation was never undertaken unless after the stage of ramollissement had passed. The supra-condyloid method has been performed alone in 810 instances; in five it was assisted by Schede's operation on the tibia, while in the remaining five modifications of the supra-condyloid method were performed (in the earlier days of my experience). When operating for genu valgum by the supra-condyloid method, the anatomical lines formerly laid down by me have been strictly adhered to, and I have never had occasion to apply a ligature. As a rule there have only been a few drops of blood, sufficient to leave a slight stain on the sponge. The operations have been conducted throughout under the spray, and with strict Listerian precautions.

In eight cases suppuration took place; in six the cause was pressure or some extra force applied, under accidental circumstances. In one it was due to diphtheria of wounds. During the last three years no suppuration ensued after any osteotomy for genu valgum.

Mortality after Supra condyloid Method.—Since the last report two patients, who had been operated on for genu valgum, have died. Both were weak adults with marked deformities. The first was aged twenty-four years. He was operated on for aggravated bow-leg and knock-knee. He had a history of hæmoptysis, and the apices of his lungs were dull. From what could be ascertained at the time, as well as from the information supplied by his medical attendant, there were no recent advances of the disease. It was evident that the degree of deformity of his limbs was such that his health was necessarily kept below par by want of exercise. Unless the condition of his limbs was rectified, it was doubtful whether his strength would improve, and it was certain that he could not lead a useful life. So keenly did he feel this that he urged the operation. For the first week after the operation he progressed well. There was no untoward symptom. At the end of that period the temperature began to show a rise in the afternoons. He had a slight cough, accompanied by a considerable degree of aphonia. He had profuse night sweats. The upper portions of his lungs were affected with coarse crepitant râles, except at the very apices, which were dull. On the ninth day after operation there was a thin liquid discharge of pus found in the wound on the bow leg, which continued. His condition gradually became worse; hæmoptysis came on in a severe form, and he died one month and two days after the operation. The post-mortem showed that the wound on the bow-leg was not healed. The genu valgum wound was healed, though the union of the bone was weak. The upper lobes of the lung were filled with tubercle; at the apices it was of old standing, having undergone degeneration, while lower there was a fresh deposition of miliary tubercle, with ulceration at parts. The bases were free.

The other case was also that of a weak adult, who had marked genu valgum, preventing him from working or from walking other than very short distances. On the twelfth day after the operation his temperature rose, and on the thirteenth it had reached 102·6°. His limbs were examined, the wounds found healthy, and there was nothing in their appearance to account for the increased temperature. On the fourteenth day it was 103°, and still the cause was not discovered. On the fifteenth a stain was seen on the sheet, and on examination it was found to have proceeded from a sore over the sacrum, of which he had never complained, and stated that he had not been aware of its presence. This sore at first seemed superficial and was covered with a greyish membrane, which on removal left rather a deep raw inflamed surface. Next day it was seen that the area of the sore had considerably increased, and that another layer of greyish membrane implicating the tissues had formed over its surface. The temperature was now 104° to 105°. On the seventeenth day he complained for the first time of pain in his limbs. The wounds were therefore again inspected, when both were seen to be covered with a greyish false membrane, similar to that which covered the bed-sore. There was at this time very little discharge, and the little that was present was serous. This membrane was deeply seated, involving the superficial layers, and penetrated into the interior of the wounds. It was removed; but at the next dressing the sores had greatly enlarged, and were again covered by thick false membrane, while the discharge of thin matter—pus and bloody serum—was profuse. It was evident that we had to deal with a case of diphtheria of wounds, showing itself, first, in the sore over the sacrum, rapidly affecting the constitution, and through it the wounds on the limbs. Notwithstanding vigorous measures at destruction of the membrane by external means and internal remedies the sores increased with great rapidity. The greyish membrane on removal exposed a bleeding, raw, inflamed surface. The mucous membranes later became involved, and at the same time he had profuse diarrhœa, with shreds of membrane in the stools. The patient died thirty-two days after the operation and twenty after the onset of the illness. The post-mortem, besides showing the diphtheritic membrane on the sores, revealed its presence in the alimentary canal, the fauces, œsophagus, and rectum. The intestines were much congested. The liver was five pounds

and a half in weight and was two-thirds fatty. The ward drainage was at this time in a bad condition. Several patients who had been operated on for other affections were attacked. Enteric fever became epidemic, nurses and patients being struck down with it. As soon as the drainage was put in order it disappeared. Adding these two deaths to the three formerly reported, there have been in all five persons who died after the operation for genu valgum was performed on them; and in none of these was death due to the operation. The only one which admits of doubt is that one in which diphtheria commenced in the sore over the sacrum, and quickly showed constitutional manifestations.

It may be interesting to note that up to July 31st, 1884, I have osteotomised 1267 limbs belonging to 704 patients, and have performed on these 1800 osteotomies; all for deformities of the lower limbs. The deaths from all causes after these operations are: one from pneumonia (contracted on the eve of operation), one from tubercle of the lungs, one from diphtheria of the respiratory passages, one from diphtheria of bedsore and wounds, and one from enteric fever epidemic at the time in the wards (the two last-mentioned deaths occurred about the same time). The first five were for genu valgum, the last one for genu varum.

Results as to Utility of Limbs.—In all cases there has been improvement in the form, strength, and utility of the limbs of those who have been operated on for genu valgum. Where the knock-knee has been present without complications from other rachitic curves the limbs have been rendered quite straight.

The advantages of the operation and the results may be summarised as follows:—A deformity of a very grave kind has been removed; the height of the patient has been increased, often by several inches; the patients have been able to walk easier, much better, and a great deal further than they could prior to the operation. As a consequence they improved in health and strength, and in many instances they have been enabled to occupy situations from which they had previously been debarred. It would be out of place to give cases in detail, especially as they are numbered by hundreds, but by way of illustration the following may be quoted:—

1. A lad eighteen years of age was affected with genu valgum to such an extent that a horizontal line drawn from the internal malleoli measured eighteen inches, while a vertical line running from the horizontal one to the apex of the knees measured fifteen inches. He could neither walk nor stand for more than five minutes at a time, and was totally unfitted for work. After supra-condyloid osteotomy his limbs were straight; he could walk and leap with ease, the movements of the knee-joints being perfect. He was several inches higher than he was prior to the operation. A year afterwards he several times walked eighteen miles at a stretch without fatigue. He is now engaged as a mechanical engineer, in regular employment, and walks six miles daily in going to and coming from his work. This patient has now been operated on six years. There has never been any weakness of his legs since the operation. He has grown considerably during that time both in height and breadth, and he is a great deal stronger than he was ever likely to be had the operation not been performed.

2. A man twenty-five years of age, affected with double genu valgum (fifteen inches between the malleoli), had to give up his employment some time previous to his admission into my ward on account of his inability to walk to and from his work and difficulty of standing. After supra-condyloid osteotomy his limbs were straight; his knees were freely movable, his stature increased, and he was capable of doing his work with ease. A year afterwards he walked in four consecutive days over 100 miles without fatigue. This man has now been operated on about five years; he is now quite well, and has changed his occupation to that of a traveller for a publishing firm.

3. A third patient, affected with marked genu valgum, could scarcely walk with the help of crutches from his own door to the shop at which he wrought, situated thirty yards distant. There he had a sedentary occupation. After operation, besides having straight limbs which were freely movable, his height was increased, and he was able to walk without any support. He changed his residence, walking then daily four miles to his work. At one time he walked ten miles at a stretch without fatigue. He has also been operated on five years, and has had no weakness since.

These are ordinary examples of the results of the supra-condyloid operation for genu valgum. In a former paper I have answered the question as to whether the femora grow after supra-condyloid osteotomy. There is abundant proof that the operation does not interfere with the growth of the bone. Many patients, from eight to fifteen years of age, have been operated on, and have now grown considerably, and the femora have grown in proportion with the rest of the body. As an example, one boy aged eight years, affected with genu valgum, measured 4 ft. in height; after supra-condyloid osteotomy he measured 4 ft. 3 in.; four years later he was measured, and found to be 4 ft. 10 in., the femora having proportionately increased.

Relapses to the deformed Condition.—As to relapses to the deformed condition after osteotomy, I have seen in two cases in which osteotomy was performed for anterior curves of the tibia in young children, who were afterwards the subjects of severe illnesses, that the curve recurred; but in genu valgum, after supra-condyloid osteotomy performed by me, I have only once seen a case which showed a return, and that to a very slight extent. It occurred in a boy who had a standing occupation and was poorly fed. Four years afterwards he returned with a slight degree of knock-knee (4 in. between the malleoli, while the knees measured 12 in. from the malleoli).

Average Duration of Treatment.—The average duration of treatment is six weeks in the splints, and two in the wards after that, while learning to walk. The patients are then advised to go to the convalescent home for two weeks. Three months are ample to enable them to be fitted for walking about and to permit them to engage in their occupations again. I have never tried to find the very earliest limit which was necessary to enable the patient to get up and walk about, but rather tried to gain a point which would enable us to say that after that time there was no fear that any mishap would take place.

Combining these statistics of British surgeons with my own, we have 580 limbs operated on by others by the supra-condyloid method, and 804 operated on by myself, which gives 1384 limbs that have been operated on by British surgeons by this method. Of these, ten have died *after*, though not all *from*, the operation. There are only three that are stated to be due to the operation. In one of these cases, however, the operation though credited as Macewen's was not such; so that two only are left: in one the death is clearly due to the operation (septicæmia); while in the other there is a reasonable probability of the operation having been, indirectly at least, the cause of death, the operation having been performed in this instance under bad sanitary conditions.

I have observed in the medical journals within the last few months that there have been some cases in which hæmorrhage has followed the supra-condyloid method; one in which the anastomotica magna, and another in which the popliteal had to be ligatured. One surgeon says that he performed the operation in the usual place for Macewen's operation. He then states that he took his bearings "from the patella." The patella is not given by me as a guide to the place of incision, either in the soft parts or in the bone. It is not a fixed point, and does not bear a constant relation to the plane of the condyles in the deformed condition of the femur. It is probable that if such a guide was taken it might have led some to cut the anastomotica magna or the superior articular. With regard to the division of the popliteal, if the instructions given for the performance of the operation be attended to, it is difficult to understand how it can be divided, except by pure accident. It is, however, possible that it could be divided in one of the following ways. First, by the use of instruments which have a greater breadth than the diameter of the bone. A portion of the instrument might thereby project on the posterior border beyond the bone, and come in contact with the artery. Secondly, by not cutting the bone in a methodical manner, and especially by not attending to the directions given to cut the posterior and inner portion of the bone from behind forwards and outwards. If, instead of this, the osteotome be directed from within outwards and backwards, the popliteal might be divided. Thirdly, by holding the osteotome between the finger and thumb, and more especially when this is done at the head of the instrument alone, while the rest of the handle is left unsupported; the chisel is then apt to slip off the bone, and the impulse which it has already received might cause it to penetrate the artery. This is all the more likely to follow if the surgeon holds the osteotome so as to cut away from, instead of to, himself. Regarding suppuration, it seems to me that the chief point in bringing it about

is the exercise of force, either during the operation, or afterwards by tight bandaging. There is another way in which it might happen—viz., by the elastic rod which is sometimes used for arresting the flow of blood in the limb during the operation. This rod may be applied too tightly or too roughly, and so predispose to suppuration.

The placing of the limb correctly on the splints is a point to be attended to in connexion with obtaining perfect results. In any case where it is feared that suppuration might ensue, it would be an element of safety to enlarge the wound to a couple of inches and insert a drainage-tube. In fact, Mr. Lister in performing this operation always does so.

The work of continental surgeons has not been referred to, not that they have been idle—quite the contrary; but the data have not yet been furnished which would enable me to speak with sufficient confidence as to their work. Papers have appeared from the following (among others)—Paul Bruns of Tübingen, Boeckel of Strasburg, Checcarelli Alessandro, Panzeri, Margary, Romano, Morelli, Albertini, Ambrosio, Topai of Italy; and in America we have among others Fowler, Pilcher, and Hutchinson of New York.

OBSERVATIONS ON THE

RELATION OF THE PRINCIPAL FISSURES AND CONVOLUTIONS OF THE CEREBRUM TO THE OUTER SURFACE OF THE SCALP.

By ROBERT W. REID, M.D., F.R.C.S.,
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A GOOD deal has been written about the relation of the sulci and convolutions of the cerebrum to the outer surface of the bony cranium, especially with regard to the various sutures. Frequently these sutures are not to be felt through the scalp, and practically, therefore, such relations are of little value to anyone examining the head from a medical or surgical point of view. Hence it occurred to me that a gap might be filled up in regional anatomy by describing the relation of the principal sulci to the outer surface of the scalp, and consequently I made a series of investigations on the dead body, to try if possible to make out some guides by which, on examining a person's head, one might readily be able to localise the chief sulci, and thereby the position of the principal convolutions. Of course it is impossible to draw a line on the scalp exactly to follow a sulcus of the brain, for the simple reason that the sulci are never in any two brains precisely alike, or the shape of the head exactly the same in all cases. We must also remember that, as the surface area of the outside of the scalp is greater than the surface area of the corresponding part of the cerebrum, any lines drawn on the scalp to represent the sulci will be longer than the sulci themselves, and the spaces between those lines, indicating the convolutions, will be larger than the convolutions themselves.

What I propose to do is to show that by taking large and easily felt landmarks on the head, and drawing from these certain lines, those lines will indicate accurately enough for all practical purposes the position of the principal sulci, and that by removing in any of these lines a piece of the scalp and skull an inch square, or by applying the one inch trephine to the skull, with the centre pin on the line, we can expose the fissure in any part of its course.

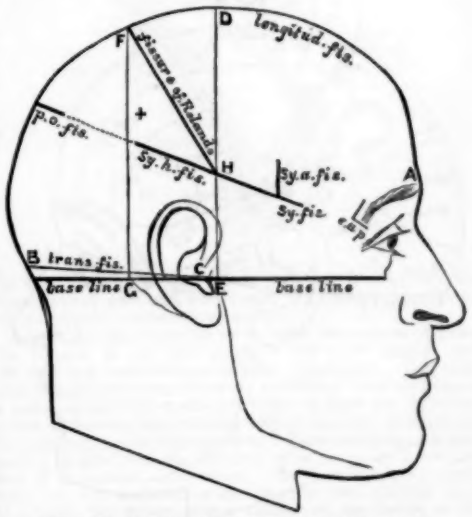
The landmarks which can easily be felt on the outside of the scalp, and with reference to which lines can be drawn to indicate the position of the sulci are the glabella, or depression between the two nasal eminences just above the root of the nose, external occipital protuberance, superior curved line of the occipital bone, parietal eminence, posterior border of the mastoid process, depression just in front of the external auditory meatus, external angular process of the frontal bone, frontal part of temporal ridge, and the supraorbital notch. If the last is not to be felt, its position will be at the junction of the inner with the middle thirds of the supraorbital margin. We shall also suppose that the base line (Fig. 1), from which all perpendicular lines are drawn, runs through the lowest part of the infraorbital margin and the middle of the external auditory meatus.

Longitudinal fissure of cerebrum.—This of course is readily indicated by a line running along the middle line of the top of the head from the glabella to the external occipital protuberance.

Transverse fissure.—This is indicated by drawing a line along the superior curved line of the occipital bone from the external occipital protuberance to the external auditory meatus—that is, along the line of junction of the head with the neck posteriorly.

Fissure of Sylvius.—To find this draw a line from a point one inch and a quarter behind the external angular process of the frontal bone to a point three-quarters of an inch below the most prominent part of the parietal eminence. Measuring from before backwards, the first three-quarters of an inch of the line will represent the main fissure, and the rest of the line will indicate the horizontal limb. The ascending limb will start from the posterior end of the line indicating the main fissure—that is, two inches behind and slightly above the external angular process,—and run vertically upwards for about an inch. (See Fig. 1.)

FIG. 1.



A, Glabella. B, External occipital protuberance. *e. a. p.*, External angular process of frontal. B C, Transverse fissure. A B, Longitudinal fissure. *Sy. fis.*, Sylvian fissure. *Sy. h. fis.*, Horizontal limb of fissure of Sylvius. *Sy. a. fis.*, Ascending limb of fissure of Sylvius. D E, Perpendicular line from depression in front of external auditory meatus to middle line of top of head. F G, Perpendicular line from posterior end of base of mastoid process to middle line of top of head. F H, Fissure of Rolando. *p. o. fis.*, Parieto-occipital fissure. + Most prominent part of parietal eminence.

Fissure of Rolando.—To find this and, at the same time, the region of the ascending frontal and parietal convolutions, first indicate on the surface of the scalp the longitudinal fissure and the horizontal limb of the fissure of Sylvius, next, from the base line draw two perpendicular lines to the top of the cranium, one (D E, Fig. 1) from the depression in front of the external and auditory meatus, and another (F G, Fig. 1) from the posterior border of the mastoid process at its root. We shall thus have described on the surface of the head a four-sided figure, bounded above and below by the lines for the longitudinal fissure and horizontal limb of the fissure of Sylvius respectively, and in front and behind by the two perpendicular lines. If we now draw a diagonal line (F H, Fig. 1) from the posterior superior angle to the anterior inferior angle of the space, this diagonal line will lie over the fissure of Rolando. In the majority of cases the fissure of Rolando does not actually run into the fissure of Sylvius, a convolution bridging across at that point; hence the lowest half inch or so of the line would cross this convolution. In those cases where the two fissures join the fissure of Rolando would be indicated by the whole length of the line.

External parieto-occipital fissure.—This fissure is more variable in its position than any of the other principal fissures of the cerebrum, and consequently any indication of it on the

surface of the scalp must be approximately accurate. If we continue the line for the horizontal limb of the fissure of Sylvius onwards to the line indicating the longitudinal fissure, we shall find that on trephining over the inner inch of this line we shall expose the external parieto-occipital fissure, or some part of it. In most cases we have seen the whole of the fissure in the opening so made, in others it showed itself in the posterior half of the opening, and in still fewer cases it was seen in the anterior half.

Having now indicated the position of the principal fissures, it will be comparatively easy to map out the areas of the frontal, parietal, temporo-sphenoidal, and occipital lobes, with their chief sulci and convolutions as far as they are in relation with the outer surface of the scalp.

The *frontal lobe* will be bounded above by the line for the longitudinal fissure, below by the line for the trunk and horizontal limb of the Sylvian fissure, behind by the line for the fissure of Rolando, and in front by a line just above and parallel with the supra-orbital margin. A line drawn from the supra-orbital notch backwards to within three-quarters of an inch

FIG. 2.

+ Most prominent part of parietal eminence. *a*, Convex line bounding parietal lobe below. *b*, Convex line bounding temporo-sphenoidal lobe behind. *1 fr. c.*, First frontal convolution. *1 fr. f.*, First frontal fissure. *f. R.*, Fissure of Rolando. *Sy. f.*, Sylvian fissure. *Sy. h. f.*, Horizontal limb of Sylvian fissure. *Sy. a. f.*, Ascending limb of Sylvian fissure. *p. o. f.*, Parieto-occipital fissure. *i. par. f.*, Intra-parietal fissure. *ang. g.* Angular gyrus. *s. m. c.*, Supra-marginal convolution. *1 t. s. c.*, First temporo-sphenoidal convolution. *1 t s f.*, First temporo-sphenoidal fissure. *1 o. c.*, First occipital convolution. *p. p. l.*, Postero-parietal lobule.

of the line for the fissure of Rolando, and parallel with the line for the longitudinal fissure, will indicate the first frontal fissure. The frontal part of the temporal ridge will indicate the second frontal fissure. The first, second, or third frontal convolutions will thus be mapped out. The ascending frontal convolution will occupy a space about three-quarters of an inch broad parallel with, and in front of, the line for the fissure of Rolando. (See Fig. 2.)

The *parietal lobe* will be marked out by the line for the longitudinal fissure superiorly, and in front and behind by the lines for the fissure of Rolando and the parieto-occipital fissure respectively. Below, the line for the horizontal limb of the fissure of Sylvius will separate it from the temporo-sphenoidal lobe. The interval between the posterior end of the Sylvian line and the outer end of the parieto-occipital line is occupied by the junction of the postero-parietal lobule (*p. p. l.*, Fig. 2) with the first annectant convolution and the angular gyrus (*ang. g.*, Fig. 2) with the second annectant convolution, the arrangement of these convolutions with regard to one another being very variable, the angular gyrus usually projecting somewhat more posteriorly than the postero-parietal lobule. We can therefore only indicate the separation of this part of the parietal lobe from the neighbouring temporo-sphenoidal and occipital lobes by drawing a line (*a*, Fig. 2) slightly convex downwards from the posterior end of the Sylvian line to the outer end of the parieto-occipital line. An irregularly triangular space will thus be marked out to indicate the parietal lobe. If in this space we draw a line from a point half an inch outside the outer extremity of the parieto-occipital line to a point about an inch above and behind the anterior and inferior angle of the space, this line will lie over the *intra-parietal fissure* (*i. par. f.*, Fig. 2). The line must be curved, with its convexity directed forwards and inwards, and parallel in its anterior third or so with the line for the fissure of Rolando, and about three-fourths of an inch behind it. In the space above the intra-parietal sulcus we shall have, in front, parallel with the whole length of the fissure of Rolando, the ascending parietal convolution, and behind, the postero-parietal lobule. The space below the sulcus will indicate, in its anterior part, the supra-marginal convolution (*s. m. c.*, Fig. 2), filling up the most prominent part of the parietal eminence, and, in its posterior part, the angular gyrus (*ang. g.*, Fig. 2).

Temporo-sphenoidal lobe.—This lobe, like the last, is somewhat difficult to indicate posteriorly, because it becomes continuous there with the parietal and occipital lobes without any distinct line of demarcation. Its outline will lie in the lower part of the temporal region, extending a little beyond the temporal ridge behind. It will be bounded above by the line of the main trunk and horizontal limb of the fissure of Sylvius, below by the upper border of the zygoma and a line carried back from the posterior end of that to a point midway between the external occipital protuberance and the posterior border of the mastoid process at its root. The anterior border or apex of the lobe will extend as far forwards as the posterior superior border of the malar bone. Behind, the lobe will be bounded by a slightly convex line (*b*, Fig. 2), with the convexity directed backwards, extending from the posterior end of the Sylvian line to the posterior end of the line indicating the lower boundary of the lobe. A line running about one inch below and parallel with the line for the main trunk and horizontal ramus of the fissure of Sylvius will indicate the first temporo-sphenoidal fissure (*1 t. s. f.*, Fig. 2), and another line about three-quarters of an inch below and parallel with the last will indicate the second temporo-sphenoidal fissure (*2 t. s. f.*, Fig. 2). Thus the first, second, and third temporo-sphenoidal convolutions will be mapped out (*1 t. s. c.*, *2 t. s. c.*, *3 t. s. c.*, Fig. 2).

The *occipital lobe* will occupy the remaining surface of the scalp. It will be bounded above by the parietal lobe, below by the superior curved line in its inner half—that is, the part of the line unoccupied by the lower limit of the temporo-sphenoidal lobe. Internally the line of the longitudinal fissure, and externally the convex line for the posterior border of the temporo-sphenoidal lobe, will bound it. The area of the lobe being marked out, the first, second, and third occipital convolutions can be readily filled in (*1 o. c.*, *2 o. c.*, *3 o. c.*, Fig. 2).

The above description has been taken from a series of dissections made by myself and kindly allowed to be carried on by the demonstrators of morbid anatomy in the post-mortem room of St. Thomas's Hospital. It has been frequently tested on the dead body and found to be accurate, and is merely intended to afford for practical purposes a general idea of the surface of the cerebrum in relation to the scalp. It does not take into consideration the shape of the head in different races, or in those heads which present an abnormal outline from pathological conditions.

Lambeth-palace-road, S.E.

ON A CASE OF POISONING BY SARDINES.

BY AUGUSTUS W. ADDINSELL, M.B.

THERE are few things more embarrassing to the practitioner than to be called upon suddenly to treat a case of poisoning, especially when it is not quite clear what the poison is. The rarity and gravity of the following case make it, I think, worthy of record.

On Tuesday, June 17th, at 7 P.M., I was hastily sent for to visit a lady who was vomiting very severely. I went immediately, and the husband told me the following details:—At 3 P.M. Mrs. A—— had taken for luncheon some brown-bread-and-butter and four sardines, which were the remnant

of a box that had been opened some days. She had noticed a small speck of white on one or two of them, but had thought nothing of it. Almost immediately she commenced to yawn, but, being tired with nursing some children lately with measles, this was overlooked; the yawning, however, increased towards 4.30 P.M., and from that time became incessant, until it culminated in an act of vomiting. She was then seized with diarrhœa and violent abdominal pains. Between 5.30 and 6.30 P.M. she vomited five times, and had seven evacuations of the bowels. I found the patient much prostrated; no pulse could be detected in any of the superficial arteries but the temporal, and there very feebly indeed; a cold clammy sweat bedewed the face, which was perfectly colourless; the eyes were much sunken and the pupils contracted, the mouth very parched, the lips perfectly livid, and great thirst was complained of, with severe pains in the umbilical region and cramps in both lower extremities. The mind was a little wandering, though she fully recognised me. The temperature was 97·2°. Though she was scarcely able to speak for yawning, she pleaded piteously for water. I gave her ice to suck and placed hot flannels with turpentine over the abdomen, which relieved the pain for the instant only. This not producing any permanent relief, and the evacuations continuing every quarter of an hour, I injected three minims of morphia hypodermically, and gave one drachm of brandy with ice. At this time (7.45) she was fainting, and the collapse seemed more complete. I administered another drachm of brandy, which was vomited in ten minutes. I had previously ordered the vomited and evacuated matter to be kept, and I found the latter consisted entirely of blood and mucus. The former merely contained water and the brandy. By nine o'clock the cramps had ceased, and there had been no vomiting and but one evacuation during the last hour. The temperature had remained all along subnormal and the yawning had persisted. I then gave half a pint of rice-water with an egg beaten up, with some ice to allay the thirst, which was causing great agony. By 11.30 P.M. the pulse had returned so as to be felt at the wrist; the temperature had gone up to 99·2°; in the next hour she vomited once, and had two motions of the same sanguineous description. By 1.30 A.M. the temperature was down again to 97·4°, and the pulse distinct though very feeble. During the night the patient slept fitfully, but vomited twice and had three motions by 9 o'clock in the morning. Bismuth and carbonate of potash were then prescribed, with plenty of rice-water and egg, which was taken freely during the day. At noon on the Wednesday, seventeen hours after I first saw the patient, the temperature was normal; the pulse fairly full. There was no pain, and the patient felt comparatively well, though of course very weak. From this time she rapidly recovered, and is now perfectly well again.

It seems to me that the great interest in this case lies in the violence of the symptoms (for certainly not less than six pints of liquid and bloody evacuation were passed in a few hours) and the rapid recovery; one was naturally on the look out for enteritis and peritonitis to supervene, but no approach of these disorders could be detected. Primarily, I consider the vomiting, by removing a portion at least of the irritant matter was beneficial to the patient, and that the subsequent morphia injection had the effects for which I gave it—viz.: (1) To allay the pain; (2) to stop the cramps; and (3) to arrest peristalsis. Had this not been done and the diarrhœa allowed to continue, I think the patient must have succumbed. Now the question is, What was the exciting cause? The oil being rancid could scarcely account for it, and besides, but a very small quantity of oil was taken. It has been proved in a rather recent case that tin (Professor Attfield in a paper read before the Pharmaceutical Society, 1883) in sufficient quantity to poison would be so extremely objectionable that the patient would have refused to take it; one is therefore forced, *per vias exclusiones*, to the conclusion that it must have been the sardines which had caused the mischief, and as the box had been opened some time, and others had been taken from it with no evil results, it becomes an interesting and important question for the profession, as well as for the public, how long it is safe for a box of sardines to be open and in use, and what the precise nature of the poison is to which they become subject. That it is an irritant, and a very strong one, is clear from the foregoing account; but as far as I can gather this is the first case reported of the evil, and as it arose from the use of such a very popular article of diet, I thought it worthy of being brought forward.

Talgarth-road, West Kensington, W.

A PIN SLING.

By SAMPSON GAMGEE, F.R.S.E.,
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A GENTLEMAN consulted me the other day, for a painful condition of the tip of his left little finger. To secure the benefits of physiological position and immobility, I bent the elbow at an acute angle and raised the hand; then, pinching up the sleeve at the wrist, fixed it to the coat by a strong safety-pin; with another I attached a fold of the sleeve to

the coat just under the elbow. Rest was absolute; the finger waxed pale and easy; and my patient went to his office duties in comparative comfort.

Even if an ordinary sling be at hand, the process of fixing the forearm at an acute angle is not quite simple; and the resulting unsightliness is often unpleasant. For clearness, the sketch shows the pins; but with a little contrivance a pin sling may be made invisible. A third pin, fixing the inside of the arm sleeve to the body of the coat, adds greatly to immobility. In this position I have found one pin very useful, in steadying the shoulder of a young lady who had had it dislocated three times. She had barely recovered from the last accident, when she was very anxious to go to a ball. By fixing, with a safety-pin, the inside of the sleeve to the bodice, a trusty, yet invisible, checkmate was provided, allowing freedom of hand, but barring abduction. These are trifles, only noted apologetically, because *pro re nata* they may be useful.[1]

Birmingham.

CEREBRO-SPINAL WHITE LINE.

By JAMES OLIVER, M.B. EDIN.

THE term white line I employ to designate a condition of skin produced in the same way as the "tache cérébrale" of Trousseau, but its direct opposite, and dependent on a spasmodic instead of a paralytic state of the capillaries. The capillary wall, although devoid of anything like a distinct muscular coat, such as can be demonstrated in the larger vessels, is nevertheless capable of being acted on, dilating or contracting according to circumstances. To a certain extent the minute blood channels may resemble an ordinary elastic tube, varying in width according to the amount of pressure exerted on their walls by the contained fluid. That, however, they have more than a passive existence in the animal economy there can be little doubt. It must still remain a debated question whether they are or are not governed by a special nerve influence. The minute structure of the capillary wall is a simple one, being a single layer of cells, epithelioid in character, and continuous with the similar layer of cells

[1] While correcting this proof, I find that Esmarch (The Surgeon's Hand-Book by Clutton, p. 58) has made slings by pinning up the skirt of the coat, or the coat and shirt-sleeve; but the pin sling as sketched above seems likely to commend itself for simplicity and effectiveness

lining the larger vessels. The epithelioid cells of capillaries in process of development have been seen to vary in shape. We are, therefore, justified in concluding that they are most probably protoplasmic in nature. The protoplasm of the bloodvessel is the same as the protoplasm of muscle, only less active, and this lessened activity is altogether due to the character of its limiting membrane. The application of dry faradaism to the skin exerts for the time being an apparent paralysing influence on the healthy capillary wall. Should, however, the epithelioid cells be already altered by some morbific change, the paralytic condition is more apparent and more lasting. In many cases the use of the faradaic brush prevents the production of white line in the most marked cases for at least an hour after its application. That the protoplasmic masses are not readily acted on is evidenced by the fact that twenty seconds as a rule elapse before they respond to the pressure influence. The condition may be one belonging to the category of reflexes. I am, however, inclined to believe it is due to an inherent contractility of the cells. The cells acted on alone contract. In some cases heat appeared to aid in the production of the phenomenon, and rendered the white line more likely to be obtained on the body than any of the extremities. In cases of progressive muscular atrophy, associated with well-marked fibrillary twitchings and no pain, the white line was readily produced all over the body, even on the scalp. It is not, however, obtainable in all cases of progressive muscular atrophy. It is quite possible that whilst many cases of this disease may, and apparently do, depend on central change existing in the nervous system, others are primarily due to a change in the muscle itself.

Montague-street, W.C.

A CASE OF
AUTOGENETIC PUERPERAL SEPTICÆMIA, WITH REMARKABLE EXACERBATIONS AND REMISSIONS; RECOVERY.

By H. S. REYNOLDS, F.R.C.S.E.

MRS. P——, primipara, was confined, after a natural labour, on the 9th of August last. The loss after the labour was very scanty. Next morning the temperature was 102°, pulse 125; great pain over the area of the left ovary, with unmistakable peritonitis; lochia still very scanty. Evening temperature 104°; pulse 125. I ordered quinine, half a grain of opium every two hours, and hot fomentations. She had temporary paralysis of the bladder, necessitating catheterisation twice daily. She remained in this condition, with exacerbations and remissions, for four or five days. On the third day she had a rigor; pain was still felt over the left ovary, and then appeared over the right, necessitating the continuance of the opium. On the fifth day the temperature was 105°; on the 6th, 105·4°. I gave her large doses of quinine, which had a very beneficial effect. On the ninth day, for the first time, the temperature and pulse went down to normal. I have omitted to say that, contrary to my anticipation, the breasts failed in the ordinary course, and I had them drawn twice daily. The pain over the ovaries gradually subsided. There had also been considerable tympanites, which subsided also. The bowels were in a relaxed condition from about the fifth day. From the ninth to the eleventh day the temperature and pulse went up till they were 105° and 125 respectively, and she had a severe rigor, lasting half an hour. Next day the temperature was 106°, both temperature and pulse dropping the following day to normal, although the skin acted profusely and the tongue was moist and clean.

Remarks.—I consider the septicæmia autogenetic in origin, as I have not had any cases of erysipelas or zymotic diseases in my practice, neither are there any cases in the village in which the patient lives calculated to produce such symptoms. I am at a loss to account for so severe a rigor appearing so late as the ninth day, as I surmised it certainly was too late for further septic absorption, and since which rigor the patient has gone on well towards recovery, and at the present time is in a satisfactory condition. One of the remarkable features of the case was the almost entire absence of lochia.

Castle Donington.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

GUY'S HOSPITAL.

TWO CASES OF EXTRACTION OF CATARACT IN WHICH THE EYE FIRST OPERATED ON SUCCESSFULLY WAS LOST FROM SYMPATHETIC OPHTHALMITIS, FOLLOWING UNSUCCESSFUL EXTRACTION IN THE SECOND EYE.

(Under the care of Mr. C. HIGGENS).

CASE 1.—Sophia H——, aged sixty-seven, was admitted on May 2nd, 1881. Cataract had been extracted from the left eye by small flap section upwards with iridectomy on February 7th, 1876; iridectomy downwards was performed at the same time in the right eye.

On March 20th, 1876, the vision of the left eye was $\frac{20}{30}$ with + 3-inch lens, and Snellen No. 3½ with + 2½ inch.

On the date of admission (May 2nd, 1881) the cataract was extracted from the right eye by oblique corneal section downwards. At the end of the third week the pupil was entirely blocked by inflammatory material; there was no anterior chamber, the eye had perception of shadows.

The patient left the hospital shortly afterwards, but returned on August 8th with severe iritis in both eyes. The right eye was excised. The left eye improved somewhat after excision of the right, but the improvement was not maintained. On September 20th the pupil of the left eye was entirely adherent. The eyeball eventually shrunk.

CASE 2.—Thos. McT——, aged seventy-five, was admitted on July 23rd, 1883. Iridectomy had been performed in both eyes, upwards in the left and downwards in the right on June 12th, 1882, neither cataract being at that time mature. Extraction by small flap upwards had been done in the left eye on July 10th of the same year. Subsequently (Nov. 6th) an operation for spasmodic entropion was performed on both sides. On Nov. 13th, the vision of the left eye was $\frac{6}{24}$ with + 13 dioptres (Jaeger). No. 12 with + 16 dioptres.

At the date of admission (July 22rd, 1883) extraction by small flap downwards was performed, the vitreous humour escaped before the cataract, which was removed with a sharp hook. Much soft matter was left behind. Severe iritis supervened.

Nov. 30th.—The globe was shrinking, and there was no perception of light.

In January, 1884, the patient presented himself with sympathetic ophthalmia well established in the left eye. When last seen in May of this year the eye was soft and shrinking.

RADCLIFFE INFIRMARY, OXFORD.

CASE OF SUNSTROKE; NECROPSY; REMARKS.

(Under the care of Dr. W. TYRRELL BROOKS.)

FOR many of the following notes we are indebted to Dr. Street, late senior resident medical officer at the infirmary.

John M——, aged twenty-nine, was admitted into the infirmary on August 10th, 1884. From his friends it was gathered that he had been doing harvest work at Windsor, and on the evening of the 8th had walked thence to Wolvercote (a village near Oxford), which he reached on the afternoon of the 9th. After resting a short while and taking some bread-and-butter and tea, he set to work reaping, and worked about two hours when the rain compelled him to stop. In the evening he had a meal of bacon, bread, and beer, and after walking about for a short time he went to bed in a loft. Early the next morning (about 4 A.M.) a man sleeping near him noticed him rolling about, and at 6 A.M. he was found in an unconscious state with froth issuing from his mouth. He was then taken to the infirmary.

On admission he was comatose, with his face congested; his eyes closed; his conjunctivæ insensitive; his pupils equal, dilated, and not reacting to light. Reflex action was totally abolished, but the sphincters of the rectum and bladder were unaffected. Respiration was laboured and

stertorous, the diaphragm and the intercostals not working rhythmically. On listening over the lungs a few râles were heard, but the respiratory sounds were masked by the loudness of the stertor. The pulse was regular and full, and no abnormal sounds were detected over the heart. The number of pulse beats per minute was 72; the respirations were 136 per minute; temperature 102·4°. The bladder was distended and a large quantity of urine was drawn off by the catheter, which did not contain either albumen or sugar. The contents of the stomach were drawn off, and that organ washed out with tepid water. The stomach contained a small quantity of dark-brown fluid with shreds of leaves in it; there were not any solid masses of undigested food. The surface of the body was clammy and warm, the superficial vessels, especially the veins, being much congested.

The patient died in three hours after admission from failure of respiration, the pulse persisting a short time after the respiratory movements had ceased.

At the necropsy the surface of the body was found to be livid and rigor mortis, which came on before four hours after death, had passed off. On removing the calvaria the sinuses of the dura mater were seen to be full of fluid blood. The pia mater did not show anything abnormal, except at the base of the brain, where it was opaque in places, especially within the circle of Willis. The cortex of the brain was congested; the substance was firm but presented a number of bleeding points where cut. The medulla was sliced, but no abnormal appearance discovered. The lateral ventricles contained about two ounces of cerebro-spinal fluid, but no clot. The lungs were emphysematous, the large veins filled with black fluid blood, the heart being entirely empty. The remaining organs of the body were healthy.

Remarks by Dr. BROOKS.—This disease falls, I think, under the second category of Sir Joseph Fayrer's classification of sunstrokes—viz, those in which there is a profound disturbance of the nervous centres, due to the combined influences of heat and exhaustion. It was elicited at the coroner's inquest that the patient had had a sunstroke many years before, which had left as its sequela a certain amount of cerebral irritability; thus, although he had been in service as a butler, he was unable to take alcohol, even in small quantities, without losing more or less self-control. He was, however, not in fear of the sun, as he had been working in the harvest fields during the very hot weather. The amount of fatigue he underwent may be estimated by the fact that after reaping at Windsor he walked a distance of over thirty miles, and after only a short rest recommenced work; the weather during the time was exceedingly hot until the evening, when rain came on, and there was a considerable amount of moisture in the air owing to the rapid evaporation. The full effects of the sun do not seem to have been manifested as long as the air was dry and evaporation from the surface of the body considerable; when, however, the air became moist and the evaporation from the body somewhat checked, the powerful action of the heat in the man was shown. His case was, as far as I know, the only one near Oxford (certainly the only one brought to the infirmary) during the past summer, and he would be a subject in whom there existed a predisposing cause on account his former attack. The thickening and opacity of the pia mater at the base of the brain were of old standing, the result probably of the former attack. The failure of respiration, I think, was due to some changes taking place in the respiratory centre. The vagus was not affected so far as its cardiac fibres were concerned, the heart beat being normal both in frequency and rhythm. The want of coördination in the muscular mechanism of the respiratory act would point to the involvement of the respiratory centre rather than to any affection of the vagus. There was not any engorgement of the lungs, and both sides of the heart were empty and contracted. This emptiness and contracted state of the heart might be due to tonus of the cardiac muscle brought about by the heat and analogous to the heat tetanus of ordinary skeletal muscle.[1] It seems probable that the comatose condition was preceded by convulsions, though little can be said on this point, as the fellow-sleeper of the man was extremely unintelligent, and could not give any trustworthy account of the period before the man became unconscious. The lividity and congested appearance of the surface of the body, together with the fulness of the venous system, point to a relaxation of the arteries due to some vaso-motor paralysis. The rapidity of the onset and disappearance of the rigor mortis is what might have been expected from the exhausted state of the patient. I do not know if any explanation of the post-mortem fluidity of the blood in such cases has been advanced. It appears a curious circumstance that of the two important coagulable substances in the human body—viz, blood plasma and muscle plasma—that in the case of the one the power of coagulation should be diminished, whilst in that of the other it should be increased.

[1] Vide Sir Joseph Fayrer on Sunstroke.

THREE COUNTIES ASYLUM, ARLSEY.

PASSAGE OF A SPOON AND OTHER FOREIGN BODIES THROUGH THE ALIMENTARY CANAL.

THE following case, for the notes of which we are indebted to Mr. S. E. De Lisle, senior assistant medical officer, is worthy of record, as showing the capabilities of the alimentary canal for the passage of foreign bodies of even a large size.

S. P——, a delicate-looking woman, aged thirty-two years, was admitted a patient in November, 1882, into the asylum, in a state of acute melancholia. She was actively suicidal, having attempted to kill herself by thrusting things down her throat and by starving herself.

About six weeks after her admission she succeeded in evading the watchfulness of the nurse placed in special charge of her, and snatching a teaspoon from the table, instantly swallowed it. The spoon was 6 in. long, 1¼ in. wide in the bowl, and weighed 7 drs. 20 grs. She subsequently succeeded, although specially watched, in tearing pieces varying from 4 in. to 6 in. square from her blanket and swallowing them. This was discovered by the holes being noticed in the blanket and the pieces subsequently found in her stools.

In April, 1883, four months after she had swallowed the spoon, whilst walking in charge of two nurses she suddenly broke from them, picked up a stone from the ground and swallowed it. About four days later she passed it. The stone weighed 4½ drs. and was about 1½ in. long and 1 in. broad.

In March of this year, fifteen months after she had swallowed it, she passed the spoon per rectum. It was found to have lost size and weight, its dimensions now being, length 5½ in., width of bowl 1¼ in.; weight 5 drs. 11 grs. It will thus be seen that the spoon lost ½ in. in length and 2 drs. 9 grs. in weight during its passage through the body.

On August 7th she swallowed a large steel thimble, which she snatched from a nurse sitting beside her. This she passed on the 11th.

Note.—It will be noticed that while the spoon was in her stomach and intestine she passed through her several foreign bodies of various shapes and sizes; also that the pieces of blanket, the stone, and the thimble all took about the same time to pass through the alimentary canal—namely, four days. The spoon was made of the composition known as Britannia metal. During the time it was making its way through the intestine her condition was variable. She suffered from jaundice for a considerable period, with pain and tenderness over the right hypochondriac region. It seems as if the spoon lodged in this situation for a long time. Her condition then was critical. She persistently refused food, and was fed with the œsophageal tube. She then improved and gained weight, and seemed free from pain or inconvenience till the spoon appeared to have reached the right inguinal region, when she became very ill. She again improved after some time, and seemed to suffer no further distress. The treatment adopted was rest, with opium and belladonna and soft pulpy food. Constipation was relieved by enemata.

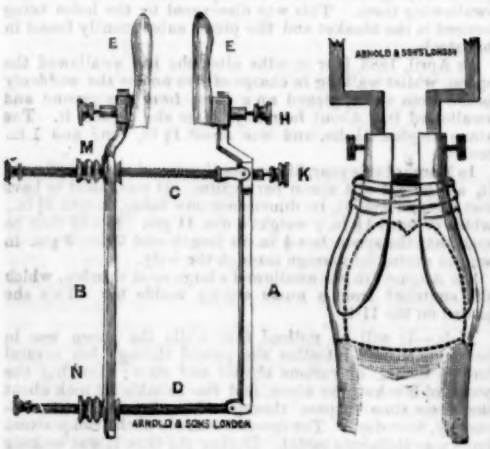
A NARROW ESCAPE.—At Bridgewater on the 5th inst. a labourer fell into a trance, and his wife, thinking he had died suddenly, made preparations for the funeral. The vicar, however, on being informed of the facts, inspected the supposed corpse, and refused to allow it to be buried, since it was not cold enough to satisfy him that actual death had taken place. The body was placed in a coffin and conveyed to the church, where it was frequently visited by the vicar and others. On the 8th inst. a slight movement occurred, the man was removed to bed, and has since slowly recovered.

New Inventions.

RICHMOND'S PREPUCE DILATOR,

FOR THE TREATMENT OF PHIMOSIS WITHOUT OPERATION.

THE only method of treating phimosis, in common practice, is by operation. There are, however, a great many patients suffering from this malady who absolutely refuse to undergo any operation for its relief. Numbers of cases are constantly presenting themselves of men considerably advanced in years who have never been able to get their foreskins back, and have consequently suffered continually from discharges attributable solely to the irritation attendant on this condition. Yet many such patients will rather pass their lives with the inconvenience and risk which this state of things involves than submit to the knife. There can, however, be only one other possible means of treating phimosis, and that is by stretching the prepuce. But this method appears to be very seldom put into practice, for when it is tried it generally results in failure. I can see no reason, however, why the skin and mucous membrane surrounding the glans penis should not be as freely dilatable as in other parts of the body. The reason of the failure, I take it, is simply that no proper instrument has been invented for the purpose. Extemporised instruments, such as dressing forceps, aneurysm needles, or blunted hooks, are painful and inadequate dilators. An instrument proper for the purpose should (1) possess blades which could be introduced separately;



(2) the blades must be of suitable size and shape to suit the case; and (3) it should be possible to open them parallel to one another or at any angle. The instrument which I have devised for this purpose consists of two rods, A B, connected together by means of two long screws, C D. At one extremity they are bent inwards and fixed to the blades, E E. These blades can be removed and may be of any size and shape. The rod, B, is of a tuning-fork shape with the screw-nut, M, sliding in the groove between the two branches of the fork. Through the nut, M, is passed the long screw, C, the end of which is received into a cup working on a hinge joint attached to the cylinder, K, which slides along the bar, A. The screw end may be detached from the socket by pressing a little spring. The blades are passed separately down between the foreskin and glans. Very small blades are used at first, and they are of course previously oiled to facilitate their passage. They are then attached to the rods, which are united by fixing the end of the screw, C, into the cup-joint, K. The other screw rod, which is fixed only to the bar A by a joint, can be pulled over into the groove of B. Gradual extension can then be applied by turning the nuts M and N. Since there is a joint at K the blades may be opened parallel to one another, or at any angle, and in fact the relative position of the blades may be altered in any direction. The idea is not to stretch the foreskin forcibly, and at one sitting, but to dilate it gradually in the same manner as a stricture of the urethra is dilated by repeatedly passing a catheter. If the instrument be used once or twice a week for about ten minutes at a time, the foreskin will in most cases go back in a month or six weeks. The larger blades are used to thoroughly stretch the tissues and complete the treatment. The foreskin may thus be dilated to any reasonable extent, and will after a time easily roll back over the corona. The instruments are made by Messrs. Arnold and Sons.

St. Bartholomew's Hospital. W. STEPHENSON RICHMOND.

A NEW FORM OF SUTURE.

I BEG to submit to the notice of the profession a form of suture which in my opinion would be useful, and might in certain cases and in certain situations supersede with advantage the ordinary means of approximating the edges of wounds. I am not aware that such a contrivance has been used before, although the age of the thread suture and the absence of recent attempts to modify its principles of fixation would seem to indicate that it has reached the stage when modification is unnecessary and impossible. Nevertheless, the suture is objectionable in ways which will immediately suggest themselves to anyone who reflects for an instant on its application. 1. It fails to approximate the walls of a wound in a desirable manner, only too often bringing into contact the limited superficial portions of the tissues corresponding to where the threads are inserted, and leaving the deep parts unapproximated. 2. There is a circular constriction, which frequently leads to ulceration and

strangulation of the tissues enclosed within it, and thus to uselessness of the suture; while this defect is not at all times caused by a too tight application, but is indirectly owing to the smallness of the body which bears the strain of the tissues. 3. The suture acts as a foreign body in the wound, and causes those conditions which are known to prevent early union. These not being imaginary objections, but based on experience, I wish to suggest the following form of suture as fulfilling indications not met by the ordinary interrupted suture, and being at the same time easy of application. These sutures may be very readily introduced by a torsion forceps, which is made to grasp the V-shaped bend, while the fingers of the left hand approximate the edges of the wound; after which, if the wound is not thoroughly closed, the wire may be clamped at the bend and the points brought closer together, with or without being held by a thread, or a piece of cork fastened on them. A piece of folded lint may then be applied under the bend to afford support to the wound. The sutures may be introduced either in the long axis of the wound, which is preferable; or across it, when a foreign body would of course be present. These sutures may be had of various thicknesses, sizes, and curves, with lancet points. They are made of silver, with hardened points, by Messrs. Arnold, of Smithfield.

JAMES MAC MUNN,

Finsbury Park. Late Res. Med. Officer, Gt. Northern Hosp.

A NEW TRACHEOTOMY TUBE.

THOUGH gum elastic has, I believe, been used for tracheotomy tubes, hitherto all attempts have been failures. For the tube I now bring before the profession I cannot of course promise a success, but on theoretical grounds, as well as having received approval when a friendly criticism has been asked from distinguished members of the profession, I am induced to publish the results of my endeavours. I believe that of all tubes now in use, Mr. Durham's lobster tail, and the indiarubber tube of Mr. Morrant Baker have the most general popularity, the aluminium, the other silver, celluloid, vulcanite, &c., being found inferior in one or other respect. For the lobster tail, durability, the rectangular curve, its method of introduction, and its movable shield give it special advantages, but it is very costly, complicated, heavy, and prone to produce ulceration and irritation. The indiarubber tube is light,

soft, and consequently unlikely to irritate or ulcerate, and cheap; but its thickness, especially if on a webbing, its tendency to rot, collapse, and fall to pieces if not on a webbing, render it very unsafe, while it cannot be used from the beginning. In the gum-elastic tube I have sought to achieve all the virtues, while reducing to a minimum the disadvantages, of the other tubes. Messrs. Baker, of 243, High Holborn, have successfully made some under my direction. They are constructed of the thinnest material that can be made on a webbing (the shield and tube can be made in one piece), are very light, simple, and compressible when warm, but to a degree far short of collapsing, thus enabling them readily to accommodate themselves to the shape of the trachea and its movements, while their webbing framework will keep them from rotting and falling to pieces. They are very cheap, and as no mould is required as for indiarubber tubes, any modification of shape can be adopted according to the fancy of the surgeon. Those I have had made are rectangular, the tracheal end slightly incurved, with a small shield having lateral processes, varnished both inside and outside, and, provided due care be taken with their preparation and keeping, will, I believe, be always found clean and not sticky. I have

tried some other shapes, but I think that the one shown in the engraving, and just described, will be found the most useful. The engraving shows the tube a little tilted to one side. Those who have tied catheters in the bladder will know how much the best the gum-elastic catheter is for the purpose, and I may say it was that fact that first suggested to me the use of gum elastic for a tracheotomy tube. Finally, as regards its use. When desired, it can be used immediately in conjunction with a lobster-tail inner tube, the latter to be left off as soon as convenient. And though this may increase its bulkiness and weight, yet it will not do so to such a degree as to impair its utility. But believing as I do that Mr. G. Bird's dilator is the best instrument in general for the first few days, especially in croup and diphtheria, its use would then be limited to those cases in which a tube has to be worn for a long time—e.g., after injuries of the larynx and other parts of that region, tumours, some inflammatory diseases, and during and after some operations upon the tongue and jaws, when tracheotomy is deemed advisable. Messrs. Baker are preparing tubes in different sizes, so as to make sets.

A. REA EDWARDS, M.R.C.S., L.R.C.P.
Late House-Surgeon King's College Hospital.

THE ANTIDOTE BAG.

MR. MARTINDALE, of New Cavendish-street, was the first to adopt a suggestion to produce a bag fitted with every remedy and appliance likely to be needed in the treatment of a case of poisoning. A notice of this really useful innovation appeared in these columns three years ago, and since that time other similar bags have been devised. Mr. Martindale has further improved upon his by omitting some articles, as the stomach-pump, enema, catheter, &c., which are always at hand, and has thus not only rendered the bag more portable, but has been enabled to supply it at a greatly reduced cost. This smaller bag contains the following antidotes, which are labeled with directions for their use—viz., dialysed iron, syrup of chloral, chloroform, aromatic spirit of ammonia, spirit of chloroform, oil of turpentine, acetic acid, tincture of digitalis, nitrite of amyl capsules, sulphate of zinc, ipecacuanha, bromide of potassium, calcined magnesia, tannin, and a hypodermic case with syringe and solutions of acetate of morphia, apomorphia, nitrate of pilocarpine, sulphate of atropia, and nitrate of strychnine. The bag is supplied with a copy of Dr. Murrell's "What to Do in Cases of Poisoning."

MICRO-ORGANISMS OF YELLOW FEVER.

IT will be remembered that Dr. Domingos Freire is the author of several communications founded on investigations directed to prove that yellow fever is a contagious disease which owns a micro-organism as its proximate cause. A few weeks ago (THE LANCET, July 29th, p. 29) we published an abstract of some experiments by Messrs. Mozley and Harrison, which went to prove that none of the conclusions at which Dr. Freire had arrived were correct. The latest phase of this discussion is a communication sent to us by Dr. Freire himself, and we propose to give here a *résumé* of his latest arguments and observations.

He thinks that the divergence in results is to be attributed to the widely different conditions under which their experiments were carried out. In the first place, Messrs. Mozley and Harrison injected into the animals liquids obtained by cultivating the earth taken from the graves of persons dead of yellow fever, whilst Dr. Freire employed the earth itself a few minutes after it had been merely diluted and mixed with pure water. It is contended that the particulate liquid injected by Dr. Freire was of great virulence, whereas on cultivation the virulence steadily diminishes. Further, the earth used by Dr. Freire came from individuals dead hardly a year, whilst the material employed by Messrs. Mozley and Harrison had lain three times as long. It is likely that the organisms would in that time have perished, the dead bodies having been reduced to little more than the condition of a skeleton; the more so as the bodies buried in coffins were separated from the earth which covered them by a layer at least of a corrosive substance (lime). In Dr. Freire's experiments the bodies were not surrounded with lime, and were not buried in coffins.

The two authors did obtain fatal results when material was taken immediately from the dead bodies; yet they were not inclined to look on the cause of death as due to yellow fever, but rather to a form of septicæmia. Dr. Freire, however, believes that in their experiments the micrococcus xanthogenicus was the agent in the production of the fatal disease, and he asks how it was, supposing the disease to have been septicæmia, that no bacteria were discovered in the blood. He perceives many lacunæ in the researches made by Messrs. Mozley and Harrison, and is curious to know whether they discovered in the earth employed the micrococcus which he has described as characteristic of yellow fever. He further argues that it is impossible for all guinea-pigs to manifest the symptoms of yellow fever, because species makes a difference, and may profoundly modify morbid processes. Moreover, accurate descriptions of the conditions of all the viscera in guinea-pigs dead after inoculation with the peculiar earth are wanted, and these, with fresh evidence in support of his views, are about to be published by Dr. Freire, who has kindly sent us some of the proof-sheets in advance. In the first autopsy of a guinea-pig inoculated with some drops from a mixture of water and earth taken from the cemetery of Jurujuba, where individuals dead only of yellow fever are buried, the following lesions were noted:—Slight tint of jaundice over the skin of the animal; the brain of a decided grey colour; the lungs congested, and their surfaces studded with black areas; the heart dilated, and containing blackish blood in the ventricles; the liver swollen and blackish; the spleen also dark-coloured; the stomach full of food, and its mucous membrane of a yellow colour; the intestines of a yellowish tint at certain parts and brownish in others; the kidneys swollen and congested; the urine albuminous; and the bladder full. A second necropsy was made, with similar results, on a guinea-pig, which had died after injection of some blood of another guinea-pig, which had lived in a confined atmosphere saturated with the spores of micrococcus xanthogenicus taken from the cemetery of Jurujuba. In all the post-mortem examinations Dr. Freire has found the same morbid changes, with yellow scattered granules and cryptococci of various sizes, shapes, and colours on microscopic examination of the blood. And here Dr. Freire ceases for the present, in the hope that Messrs. Mozley and Harrison will repeat the same experiments with all the necessary precautions.

THE LANCET.

LONDON: SATURDAY, SEPTEMBER 27, 1884.

THE near approach of October reminds us that educational work must soon begin again; and it begins this year, it must be admitted, under somewhat new circumstances—circumstances which throw upon the medical authorities unusual responsibilities. The Medical Council is to meet on the 7th of October. All the later meetings of the Council have been held with a halter round its neck. This curiously constituted body, in which the Apothecaries' Society of Ireland and the Glasgow Faculty of Physicians have as much representation as the University of London and twice as much as the University of Edinburgh, has been threatened with wholesome change ever since attention was directed to its composition. For two years past the Government has been trying to pass a Medical Bill that would abolish the individual representation of bodies which are pecuniarily interested in medical licensing, and to substitute a Council in which they should be collectively represented, and confronted with representatives of the Crown on the one hand and of the profession on the other. The complete failure of these attempts, and the exhibition of the Government—the strongest Government of recent times—being at the mercy of gentlemen of the Home Rule party, who have condescendingly given out that they will allow the Bill to pass on the slight condition of sixty or seventy amendments, and of other exacting gentlemen, of whom better things might have been expected, have for the present disheartened, almost to despair, those who ventured to hope for medical reform. The failure of the Government, and the proved incompetence of Parliament, with its present Rules of Procedure, to deal intelligently and effectually with the reform of our licensing system, may well embolden the existing bodies to conclude that they are their own masters, and that Parliament neither knows nor cares how they execute their trust or discharge their duties towards medical students on the one hand and the public on the other.

The ostensible duty of the Medical Council at its approaching meeting is to elect a President. It is vain to speculate on the action of the Council in this matter. Sir HENRY ACLAND has served the Council long and well. He was for years only too complacent towards that body, of which he has been a member from its creation. But of late he has faithfully testified that in his judgment legislation was essential, and that only such legislation as was proposed in the recent Bill of the Government could quiet the disturbed state of medical education, and reduce to a reasonable and more uniform shape the increasing mass of knowledge which our students are required to produce at the examining boards. It will be very interesting to hear what Sir HENRY has to say on the collapse of the Government's efforts to effect even that portion of medical reform which has been proposed in every Bill, by whatever party or by independent members, since reform was first attempted—viz., the consolidation and conjunction of the bodies for licensing purposes. Sir HENRY ACLAND has more to gain by a stout and determined refusal to betray this fundamental principle than he can gain by giving way to those bodies which cannot look at this subject in any other than a parochial and commercial light.

It is too much, however, to expect that these bodies will not see their opportunity in this practical defeat of the Government by its *quondam* colleague, Sir LYON PLAYFAIR. And one result possibly will be, that at the approaching meeting the Council will be asked to sanction a conjunction of the English Colleges, as it has already sanctioned a conjunction of the Scotch corporations. By effecting voluntary combinations, the corporations hope to abolish the demand for combinations enforced by law. There is every reason to believe that the combination of the two English Colleges now contemplated is the same as that set forth in the scheme presented to the Council in March last, by which the College of Physicians and the College of Surgeons respectively undertake to "abstain, so far as allowed by law, from the exercise of its independent privilege" of licensing, to co-operate in the appointment of a board of examiners in this division of the kingdom, and in conferring upon every candidate who shall pass the series of three examinations, two diplomas—the licence of the Royal College of Physicians of London, and the membership of the Royal College of Surgeons of England—for the modest sum of £36 15*s.*—a few shillings more than the sum for which the M.D. of Edinburgh can be obtained. This scheme includes some good points and many bad ones, which we will not at present consider in detail; the more so, as we have done so at length on former occasions (see THE LANCET, March 10th and 17th, 1883). We are looking at the scheme for the moment as a public proposal made by responsible and respectable bodies, and one to which the Medical Council will be asked to give its sanction. The Council should feel more than ever bound to see fair play to medical students and to the community at large in public medical arrangements. Should it sanction this scheme, no English student, however desirous—as, we think, all English-trained students should be—of obtaining a complete English qualification, will be able to do so under a cost of £36 15*s.* The Royal College of Physicians can now give a complete diploma in medicine and in surgery—and a respectable diploma too, one recognised by the State as a qualification in medicine, surgery, and midwifery—for the sum of £15 15*s.* It is somewhat strange that the College of Physicians should be willing to forego the rare power of complete diplomatisation conferred by ancient charter and amply recognised by modern usage. It is very doubtful whether in point of law it can do so. But it will be strange indeed if the Medical Council gives its sanction to a body discontinuing its legal and honourable function, in the exercise of which it has not been accused of performing slovenly work, and so compels the student to take two diplomas where one completely qualifies him for the duties of all branches of the profession. There is another aspect of this question. The Council has sanctioned a scheme for the co-operation of the three Scotch corporations, in which they agree to give three diplomas for £25. We say nothing here about the fact that the mere combination of corporations in the several divisions of the kingdom gives no guarantee of good work. The conjoint diplomas of the Scotch corporations have occasioned

more suspicion and scandal than any others. But what can the Medical Council hope for in the way of giving guarantees to England—which must really now look after itself—by sanctioning a scheme which will set two diplomas of England at £36 15*s.* against three diplomas of Scotland at £25? The Colleges of England should not drive men to the corporations of Scotland, and if they do so they should receive no sanction from the Medical Council.

LEAVING the personal issues involved in the regrettable dispute which has been raised by Mr. MUNDELLA'S equivocal mode of traversing Dr. CRICHTON BROWNE'S report on the subject of "over-pressure of work in public elementary schools," we turn to the main question: Is it, or is it not, the fact that over-pressure exists, and that it is doing mischief? The case seems to us to lie in a nutshell, and it would be difficult to cast the underlying hypothesis in a more terse form than that embodied in one of Dr. CRICHTON BROWNE'S concluding sentences. No one alleges, or for a moment supposes, that the Vice-President of the Council, or any influential member or official of the Educational Department, is either wilful or careless in the matter. It is simply a question of policy; and the most that need or can be justly said is said in these words: "It is quite possible that a scholar, whose body is twelve years old, but whose brain stopped growing at eight, might by his pleasing exterior and superficial sharpness impress the inspector with the idea that he is rather clever, while all the time he is childish, not to say babyish, in intellect, and ineducable beyond the first standard." If this be conceded, as we think it must be, then it follows that the inspector is not in a position to determine whether a particular pupil is or is not physically able to do the work required of him or her, and fit safely to be pressed through the educational curriculum. This seems to us to cover every contingency. It is not necessary to argue closely or warmly as to the question of experiences. It is conceivable that not a single case of injury may actually have occurred, and yet the system which makes a non-medical inspector—however humane and competent for his *proper* task—the judge of physico-mental fitness, whether of pupil or pupil teacher, must be indefensible. What are we doing? Simply this: applying a uniform pressure to a vast multitude of brains, some of which must, in the nature of things, be too weak or too ill-developed to bear the strain thrust upon them. It is a monstrous and inexplicable blunder this insistance on a level code of education for *all*. Why, even as regards the muscular and general organism of the soldier and the sailor a medical examination precedes the commencement of drill, and medical inspection from time to time keeps the question of health in view. Muscular weakness is not half so serious a bar to physical training as mind weakness is to intellectual exercise. How comes it to pass, then, that without any medical examination or supervision whatsoever the brains of a multitude of children, the majority of whom are under-bred and ill-fed, should be subjected to the same discipline and required to do the same task? It is not considered enough to know the age of a recruit for the army or navy; means are taken to ascertain whether his heart, lungs, and organs generally are healthy, and medical officers are specially appointed to examine him from time to time with a view to determine whether he is bearing the strain healthily; but no provision whatever is made for testing or watching the immature cerebral organs upon which the public pedagogue is not only left free, but required, to operate. The mere fact that this obvious measure of individual scrutiny, from the health point of view, is omitted puts the case for the Department out of court.

Dr. CRICHTON BROWNE insists that "in a great number of cases of dulness of intellect, a medical man could at once recognise the physical defects (which are often distinctive enough, although imperceptible except to the medical eye) which accompany mental weakness, and would support the judgment of the teachers; and in many cases of bodily disease and debility he could interfere to protect the children, even against the teachers, by preventing scholars who, although quick-witted and eager to learn, are certain to suffer in the process from being unduly pushed forward." The profession will endorse this statement as one of fact, and with that endorsement the dispute ought to end. Dr. CRICHTON BROWNE has undoubtedly proved his case. It is not to the point whether the victims are many or few; the system extant is radically bad; and that being so, the magnitude of the mischief wrought is of secondary importance. The blunder of striving to enforce a uniform code ought to be repaired without more ado. It may be strictly true, as Lord SHAFTESBURY has remarked, that "there does not live on the face of the earth a man who is more opposed to tyranny and oppression than Mr. MUNDELLA, or anyone more earnestly desirous of putting down all over-pressure as regards women and children." Then why, in the name of common sense, does not the Vice-President adopt the suggestion made to him, instead of fighting what must needs be a losing battle against his own moral and statesmanly consciousness of right?

Headaches, short-sightedness, neuralgia, and sleeplessness are not normal contingencies of youth, either for pupil teachers or children, yet it is a fact which Dr. CRICHTON BROWNE has demonstrated, and which men "engaged in the ordinary practice" among the humbler classes, and who, according to Mr. FITCH, are "able to know something of the children of the poor, their pursuits and their ailments," can substantiate, that these troubles—the direct fruits of over-pressure of work—largely prevail. Nothing can be gained by denying this fact, and certainly a lay inspector is not the person to contradict an able and experienced practitioner on the subject. Dr. CRICHTON BROWNE modestly says, "I cannot doubt that many of the facts which I have brought before you in this letter will be disputed, and that many of the principles which I have incidentally laid down will be challenged; but the former admit of verification, and in the latter I shall, I believe, have the support of the medical profession." We accept the facts and support the principles. If Mr. MUNDELLA is not satisfied with one of the best professional opinions obtainable, let him appoint a small commission of physicians and surgeons, men of mark, in whom he and the public will have confidence, but who are in no sort of way connected with the public service or the department, and let the issue be left in their hands. It is not for Mr. MUNDELLA and his lay inspector to impugn the judgment of a qualified physician. The presumption of

so doing does not beseem these gentlemen: it goes better with the crass heartlessness—to use no stronger epithet—of the school manager who, when a wearied mistress ventured to sit while teaching her class, ordered all chairs to be removed from the building! While the administration of our educational system rests in hands like these, there is little hope of success or safety in its operation. For the sake of children and teachers alike, the schools ought at once to be placed under medical supervision. In an able and interesting paper on "The Brain of the School Child," read before the Social Science Congress at Birmingham, Dr. FRANCIS WARNER has insisted on the urgency of the need which exists for medical inspection. We cordially endorse and support his argument. It is the cry of common sense. If the reasonable demand be not met fairly and fully, there cannot fail to be disappointment and regret when the inevitable issue of a mistaken and futile policy is fully worked out.

THE doctrine that phthisis is a communicable disease, to which the discovery of the tubercle bacillus gave some countenance, and the report last year of the Collective Investigation Committee of the British Medical Association tended in part to confirm, should, if it be a fact, find most support in the medical history of those places which are resorted to by invalids suffering from the disease. For thither there flock year by year numbers of tubercular individuals, mingling in social intercourse with, and inhabiting the houses of, the residents, many of whom have themselves chosen the place for their home on account of pulmonary affection or of an inherited tendency to it. Not very long ago Mr. THOMSON of Melbourne collected facts to show that tubercular phthisis had been in this way imported into Australia, and formulated thereon a "germ theory of phthisis" before KOCH'S discovery was made known. But it is reassuring to find that such an inference does not apply universally, and that, at least as regards Madeira, phthisis has not been disseminated in consequence of the annual influx of consumptives. Professor PAUL LANGERHANS, who is the author of a work upon Madeira, and has practised there for many years, contributes an article to VIRCHOW'S *Archiv*, based on a painstaking statistical inquiry which bears on the face of it evidence of accuracy, so far as it has been possible to attain it.

When Madeira was discovered by the Portuguese in 1419 it was uninhabited, and amongst the first settlers to join the Portuguese colony were families from France, Italy, and other European States. During the Napoleonic wars it was occupied by the English, who now form the major part of the inhabitants, of whom a small proportion are Germans, these residents being distinct from the original Portuguese element, who form the industrial class. For nearly a century the island has been annually resorted to by invalids to the number of about three or four hundred, who, together with an equal proportion of healthy visitors, add largely to the population during the winter months. The largest number of these are English, some remaining for several years, and others taking up their abode permanently. Since the failure of the wine trade the number of residents has fallen off—viz., from about 320 in 1836 to 270 at the present time, of whom 250 are English. It is plain that the residents must be brought into contact with the annual influx of visitors, who occupy about 100 houses in winter and 50 in summer, so that with the lapse of time there is scarcely a house that has not received the phthisical at one period or another.

The material for an inquiry into the influence exerted by this phthisical environment is afforded by registration records, which Dr. LANGERHANS has analysed. These records date from the year 1836, when there were 321 residents, and among these he has traced the subsequent history of 267, of which number 210 were healthy subjects and free from any inherited phthisical taint, the remaining 57 being individuals who had come for their health or who had inherited a disposition to phthisis. Of the 210 healthy people (34 being then under the age of ten years), 78 have died in Madeira since 1836, at an average age of sixty years. Four of these died from phthisis, two contracting the disease apparently abroad and returning to Madeira to die, the third dying after a slow illness at the age of thirty-eight, and the fourth at the age of fifty-five from acute pneumonic phthisis. There have also died after leaving Madeira 46, none from phthisis. There still survive 86 of these people, at an average age of sixty-two, but only 24 now reside in Madeira. There is no case of phthisis known amongst these survivors. Turning now to the 57 who in 1836 were affected with lung disease or disposed to it, there have since died 35, 9 being from phthisis, but only 2 of these deaths occurred in the island. Of the survivors, 9 remain in Madeira at an average age of sixty-nine, and 13 are living elsewhere, one only, a woman fifty-one years of age, presenting indications of phthisis. The writer next inquires into the fate of those people who have settled in the island since 1836; and dealing only with those who have dwelt there for more than twenty years, he has compiled a table including 115 persons, 83 of whom were of healthy and 32 of unhealthy stock. Amongst the 31 deaths that have occurred in the former group there has not been one case of phthisis, nor is there any phthisical person among the survivors. Of the 32 who came phthisically disposed, 17 are dead, including 12 cases of phthisis. Again, he finds that 253 children have been born to the 382 (residents in 1836 and subsequent immigrants) between 1836 and 1864, 147 being of healthy and 106 of tainted parentage. Amongst the former there have been 28 deaths, one from phthisis at the age of thirty-seven, after alcoholic excess in England; whilst of the latter 23 have died, 8 from phthisis; and 8 phthisical individuals survive in this group of 106 children, at an average age of thirty-six years.

The sum of these observations, which are far more fully elaborated in the article, is that between 1836 and 1864 Madeira contained 635 residents, of whom 440 were of healthy and 195 of presumably tainted stock. Tracing the subsequent history of these, it appears that of the 440 there have died 203, only 5 from phthisis during this long period, and 2 of these dying elsewhere than in Madeira. Not one of the 237 survivors exhibits signs of lung disease. If this be true, it is a striking fact, for it shows that in spite of conditions most favourable to infection, phthisis barely ever occurs amongst those free from inherited taint. Indeed, the proportion of the phthisical is below the average of other countries, and implies that residence in Madeira affords immunity against the onset of the disease, even under most

unfavourable conditions. It is of course otherwise with the 105 who have either arrived in the island ill, or have derived a tendency to the disease from their parents; and yet the numbers show that the disease must have been arrested in many; for although 29 of the 75 deaths in this group have been from phthisis, there are but 12 of the 120 survivors who show evidence of the disease. Dr. LANGERHANS does not rest here, but in a further analysis he separates the members of each of the four generations from 1836 onwards. The numbers are too few to admit of generalisation; but they tend to show that phthisis appears in the later generations, to become milder in type, and slower in its evolution.

Dr. LANGERHANS thinks that these facts, and especially the fact that since 1836 almost the only individuals to fall ill of phthisis in the colony have been those in whom heredity could be traced, point to the very great importance of inheritance in the etiology of phthisis. They seem to be wholly opposed to the notion that phthisis is an infective disease, and rather assign it a place with such affections as cancer or hæmophilia. As showing the influence of heredity, he gives the genealogy of eight families, whereby it is seen that the tendency to phthisis may remain latent for one generation, to be manifested in the next; and it also appears as if special forms of the disease were transmitted. Nor does his inquiry, necessarily limited as it is, lead him to endorse the popular belief that children born of parents who have inherited phthisis, but who do not manifest the disease until a later period, are any the less liable to become its subjects than are those who are procreated after the disease is manifest. Indeed, the liability may be even greater in the earlier than in the later born progeny. These are suggestive points; and we wish that the family practitioners of our country, where phthisis claims so many victims, would compile similar genealogies for the benefit of science. It would not be difficult in many cases to so trace the medical history of a phthisical family through several generations, and the result of such an inquiry, if conducted on all sides, might serve a very useful purpose.

A SERIES of experiments of much interest has been performed on the supra-renal body during the past year by M. TIZZONI. In order to avoid unnecessary sacrifice of life, the author studied the best methods of removing the supra-renal capsules without damage to the surrounding structures and with the infliction of the least possible injury to the system at large. After having made a small incision in the lumbar region at the level of the adrenal body, the parenchyma of the capsule was lacerated and its ablation practised, strict antiseptic precautions being observed. On the right side the neighbouring vena cava inferior rendered the operation of extirpation difficult. For his experiments TIZZONI generally made use of rabbits weighing only about a kilogramme each, because in this circumstance the muscular mass of the lumbar region was but little developed, and so the operation was facilitated. When the animals succumbed as the result of the operative procedure, death was not due to the nervous accidents signalised by BROWN-SÉQUARD, but was caused by subcutaneous and intermuscular suppuration infiltrating the neighbourhood of the wound. The majority of the animals which exhibited contracture of one or other of the front or hind limbs recovered, and it was only rarely that paralysis and death followed the appearance of the spastic contraction. The necropsy revealed in such cases the presence of an exudation about the meninges of the spinal cord and a softening of the spinal marrow without any demonstrable direct connexion of the lesion of the supra-renal capsule with that of the nervous centres. Outside these complications—which may be regarded as quite exceptional—the operation was generally followed by no grave accidents; the animal, if the etherisation were not too powerful, gave signs of pain only when the adrenal capsule was seized and lacerated. If this body, instead of being completely removed, were allowed to remain in the cavity of the abdomen (of course, after laceration of the capsule), the healing was much more rapidly effected; and if, some days later, the animal were killed, not a trace of the lacerated parenchyma of the suprarenal capsule could be detected; complete absorption of the essential elements appeared to have taken place. Then, according to TIZZONI, the suprarenal body is absorbed without giving rise to any phenomena such as might be interpreted to be of the nature of blood-poisoning, so that the adrenal capsule contains no organic poison; and if by treating the organ with various chemical reagents a poison be obtained, one may affirm that it is not produced during life, and consequently the poison must be due to cadaveric decomposition. A certain time after the extirpation of the capsule there commences to appear a brownish discoloration of the nose, as if the animal had been plunged in charcoal powder after having drunk some liquid. Some small blackish linear markings also may be found scattered here and there, over the mouth and nasal fossæ. The mucous membranes of these regions seem at first to be intact, but at the end of some days they become dotted with minute spots of the colour of tobacco; the minute areas become circular as they enlarge, and by coalescence a bronzed surface of considerable extent and of a uniform tint is formed, and reaches its maximum intensity about the sixtieth day after the operation of removal or laceration of the suprarenal capsule. A remarkable circumstance is mentioned by the Italian observer, which is to the effect that the destruction of one capsule only brings about unilateral pigmentation of that side of the body on which the operation was performed. If, however, the median line of the body were trespassed upon, the pigmentation extended to the whole of the surface of the body. (The text from which this report is taken leaves it doubtful by what the median line of the body was to be trespassed upon. We take it that should the pigmentation proceed beyond the mesial line then the discoloration would be universal.) White rabbits did not present any of the pigmentary phenomena.

From a histological point of view the following observations were made. When the coagulum of blood and the parenchyma of the lacerated organ had been resorbed, the fibrous envelope of the capsule was found to be filled with a connective tissue of new formation, together with large granular cells like those which are found in white softening of the brain; giant cells which had undergone caseous degeneration were also to be seen. The last fact would seem to negative NOTHNAGEL'S opinion that chronic caseous inflammation of the adrenal body was always of a

tubercular nature. These giant cells were produced in the same way as those which develop as the result of irritation of serous membranes by a foreign body. Another observation was made by TIZZONI, which appears to be extraordinary, to say the least of it. The various elements of the suprarenal capsule in the rabbit may be "reconstructed." This fact is alleged to have been observed 144 days after the almost total destruction of the suprarenal body in a rabbit. The size, colour, and structure of the organ were normal in another rabbit twenty-six days after the operation, presumably, of free laceration. At the autopsy a small nodule exhibiting active new formation of suprarenal parenchyma was also discovered. A fine interlacement of filaments of the great sympathetic cord with numerous ganglion cells and gangliform swellings had developed and covered the cortical substance of the adrenal gland of the animal last referred to. The Italian pathologist does not speculate on the mode of production of the bronzing which he observed. Many of the statements made by him require careful consideration at the hands of other experimental pathologists, but as opening up afresh the relations of the adrenal body to the system at large the results of TIZZONI'S experiments must be admitted to be of decided value.

THIS unsavoury but essentially important subject is again to the front. The only marvel is that it should ever be lost sight of even for a moment. The correspondence which is going on in *The Times* has not, so far, been characterised by the making of any new disclosure. It is perfectly well known to all who have investigated the subject of house-drainage and sewerage, that the pipes designed to convey the soil and waste-water from house-closets and sinks, and which often run under kitchens and between floors without isolation—in any true sense of the term—are not uncommonly simply placed together without being properly connected. We recently heard of an instance in which the workmen employed on the outside drain did their work well enough, and those engaged on the house drains performed their task with commendable skill and integrity; but no one seems to have been appointed to connect the two systems, so that the contents of the house-drains were discharged into the earth of the basement under the kitchen and formed a large cesspool, while the free end of the outside drain or pipe ventilated the sewer into the premises, and delivered sewer-gas without let or hindrance. The work was in this case well done, as far as it went, only it did not go quite far enough. The omission to make good the joints of drain-pipes is a quite ordinary piece of negligence. The correspondents in *The Times* insist that house drains should be periodically tested by filling them with water, and then noticing whether, when the proper outlets are stopped, the water level sinks; because if it does there must be an improper outlet—in short, a leak—somewhere. This is all very well as a rough test; but it is not enough to rely upon as ground for a guarantee of safety from sewer-gas. We know perfectly well that gas will escape from an opening which is not large enough to allow any perceptible escape of water! Many a crack or opening, which would suffice to fill a house with sewer gas would not allow so much water to escape as to make any notable difference in the level, even though the drains were charged for some hours. The fact is no test will suffice to make this matter safe, and safety ought not to be looked for solely in the integrity of the work done, important as this must be. Perfect "disconnection" should be insisted upon, so that whatever is wrong in a house must needs be of the householder's own making. It is not the soil from the house that does harm, but the sewer gas entering the house-drain from outside. Of course, if the inside work be bad there may be an escape of the contents of the house-drain into the earth of the basement, as in the case just mentioned; but this is a contingency well within control. The great evil against which those who would have healthy homes have to contend is the effect of blundering on the part of sanitary engineers and drain-makers generally. They *will* make openings "for the inlet of fresh air" at the lower levels, forgetful or ignorant of the fact that where air can get in gas can and will escape! It ought to be made imperative on every householder to erect a ventilating shaft immediately outside his house system, and to carry the same above the roof of his house away from his chimneys. No ventilating pipe or grating should be allowed to open on the lower levels. It is all nonsense about letting fresh air into the drains from the ground levels. The aim and scheme should be to afford such vent for the contained air, or gas, of the outside drain, at a high level as shall prevent the comparatively warm house-drains and pipes from sucking the gas into the house. All the year round a house and its pipes are warmer than the sewer, and when the fires are lighted they are very much warmer. As a natural physical consequence the house is always drawing air from the sewer; and the only proper and safe precaution is to place a ventilating shaft immediately *outside the house-system*, so that there shall be no pressure from without inwards to create a *vis a tergo* supplementary to the *vis a fronte* created by the higher temperature of the house-drains. We know this will seem strange doctrine, but we are convinced it is sound, and that it ought to be generally understood and acted upon by householders who would be safe.

Annotations.

"Ne quid nimis."

OUT-PATIENT DEPARTMENTS AT LARGE HOSPITALS.

THE conditions under which the physicians and surgeons to the out-patients at our large hospitals have to work are anything but hygienic in the more limited sense of the term. The crowded waiting-rooms, which frequently discharge their loaded and poisonous atmosphere into the very working-rooms and up the very nostrils of the physicians, are certainly not the kind of apartments favourable to the best intellectual work. We have no desire to find fault with the authorities of any of our hospitals—their task is hard enough in many ways; but we do hope that the condition of their out-patient departments will receive the consideration they so much need. We are fully aware that some of the hospitals which are most numerously attended are amply provided for in respect of the distribution and management of their out-patient arrangements; but we should like to see this provision more general at all the hospitals. Really the matter is one of serious importance. The out-patient department falls to the lot of the junior members of a staff who have before them many years

of labour and weary waiting. For them it is essential that the bodily vigour and intellectual activity which they possess should not be consumed before the time comes for their term of service in the wards. Anyone who will take the trouble to spend one afternoon in assiduously doing the duty or following the steps of the out-patient medical officer will soon be brought to a sense of the weariness and hard work which such physician or surgeon must undergo. And when we remember that this task has to be performed thrice or oftener a week all the year round, it will be readily conceded that the labour is one which calls for comfortable quarters and hygienic surroundings. Every man has, or ought to have, a reserve of force; and this reserve ought never to be drawn on. No physician or surgeon should be expected to do more than two hours' work in the out-patient department; four or more hours spent in the out-patient rooms severely tax the reserve force of most physicians and surgeons, and make it correspondingly difficult for the reserve power to be recouped. Indeed, this continued over-work is a too frequent cause of the premature breakdown of some of the junior medical men attached to hospitals; and usually it is precisely these who are least able to obtain the needed annual holiday; they have to do their own work during the session and that of their seniors in addition during the vacation. It is time that the offensiveness, uncleanliness, and overcrowding of our out-patient departments should by necessary alterations be reduced to the minimum.

THE LONDON WATER-SUPPLY.

WHETHER the London water-supply is good or bad is a moot point now as it was a dozen years ago. Dr. Frankland still thinks it unsatisfactory; while Messrs. Crookes, Odling, and Tidy, who represent the water companies, seem to consider it as practically perfect. Some natural bias, no doubt, exists on both sides; for each of the eminent chemists concerned has held and fought for his opinion so long that it is impossible to suppose him an absolutely impartial witness. Thanks to external pressure, and by no means to their own spontaneous action, the great London water companies have greatly improved their supply of late years. They have long been debarred from the use of tidal water, and have been compelled to filter all the water drawn from rivers and store it in covered reservoirs. In the last few years the filtration has been greatly improved, and the water delivered to the consumers is now, as a rule, free from visible suspended matters and of fair organic purity. Probably sand filtration is now doing its utmost in the purification of the contaminated waters of the Thames and Lea. The question is, therefore, whether we ought now to be satisfied with our water-supply—to "rest and be thankful." We are compelled to believe that we ought not; for even if we were to accept all the statements of the water companies as to the present purity of their supply, we could not forget that the source of that supply is a polluted one, and that in addition to the ordinary sewage pollution, representing the excreta of an immense number of persons, there is at all times the risk of an accidental and far more dangerous pollution in the neighbourhood of the companies' intake. The Thames, for example, is in summer a crowded thoroughfare. Many people bathe in it; dead dogs are by no means infrequent; barges, house-boats, steamers, and smaller craft throng its waters; and it is certain that foul matters do, from time to time, find their way into the water from these, as we can testify from personal knowledge. A single case of cholera or choleraic diarrhœa occurring in a barge might obviously lead to most disastrous results; for the filter-bed would be a poor protection against the subtle poison, and the chances are that an outbreak occasioned in this way would never be traced to its source.

THE EPIDEMIC AT KIDDERMINSTER.

THE outbreak of enteric fever at Kidderminster has assumed very serious proportions, and although its incidence is mainly on some of the worst parts of the town, yet all classes are suffering, and at least one of the principal medical practitioners has been attacked. Dr. Parsons, of the Local Government Board, is investigating the causes of the epidemic, and he has already conferred both with the sanitary authority and a number of the medical men in the town. The outbreak, as we have already explained, had at the onset much of the appearance of having been produced by water pollution, and the fact that one of the wells of the public service is in such relationship to the area of the sewage pumping works that its use has now been abandoned, gives some additional colour to this view. The condition of the sewers, if correctly described in the local press, is precisely such as to favour the spread of diseases like enteric fever, for it appears that, instead of allowing the sewage to flow away, certain catch-pits have been constructed in the line of the sewers, and that in these solids are retained. Whether the statement be true or not as regards Kidderminster, it is certain that this system is at times adopted, and any more dangerous or offensive contrivance it is difficult to conceive. Such pits are cesspools, and cesspools have no *raison d'être* in a system of sewers. Sewers are designed to carry away sewage in the most rapid manner practicable, not to retain its most injurious constituents. It is to be feared that the epidemic at Kidderminster has already attacked some 500 persons, and we are now arriving at the stage of the disease amongst those first attacked when fatal results most commonly ensue. We sincerely trust the mortality will be small, and that the cause will turn out to be one which can be expeditiously rectified.

URÆMIA.

THE pathology of uræmia reminds one of attempts to thread a needle in darkness, the distance of the point of the thread from the eye of the needle being very difficult to determine. One year we are informed on good authority that urea may be injected into the system without serious results, and the next year the direct opposite is affirmed. This is but one aspect of this many-sided subject. The chief dispute in the pathology of uræmia is as to the nature of the toxic agent. MM. Gréhant and Quinquaud have returned once more to the question, and in an experimental method. Subcutaneous injections of aqueous solutions of pure urea have been employed in gradually increasing quantities on frogs, guinea-pigs, rabbits, pigeons, and dogs. The result was constant for the different kinds of animals, and consisted in a more or less rapid death from tetanic convulsions, similar to those produced by strychnia. The most numerous experiments were performed on dogs. The toxic dose of urea in the blood was fixed with exactitude, and the influence of urea on muscular contractility was studied. Death always ensued when a dog received into its system 0 grammes of urea for every kilogramme of body weight, or in other words when a hundredth part of the body weight of urea was injected. The proportion of urea in the blood, as estimated just before or after death, was ·6 gramme for every 100 grammes of blood, and this relative proportion obtained in all the other animals employed. In a case of anuria in a man the proportion was ·410 per 100 grammes, and in another case of retention of urine ·278; in a case of interstitial nephritis, the patient suffering from uræmic dyspnœa, it was ·210, and in a case of uræmic coma ·215. Under the circumstances of the experiments all the tissues of the animals were impregnated with urea, so that 100 grammes of blood yielded 613 milligrammes of urea; 100 grammes of liver, 580

milligrammes; 100 grammes of cardiac tissue, 311 milligrammes; 100 grammes of spleen, 662 milligrammes. The observers always noticed that the urea injected under the skin was never completely absorbed, even at the time of death, though death might have been delayed for ten hours. By exposing the sciatic nerve and displaying the calf muscles, to the cut tendo Achillis of which a dynamometer was connected, the authors decided that uræmia does not increase or diminish muscular contractility. The blood of the dead animals, when submitted to distillation at a temperature of 40° C. *in vacuo*, furnished a liquid absolutely free from ammonia; the conclusion drawn from this experiment is that urea does not act as ammonic carbonate.

FRIENDLY SOCIETIES' PROVIDENT MEDICAL INSTITUTIONS.

OUR readers are well aware that in some towns the old and friendly institution of the "club doctor" has been threatened with overthrow by the wholesale amalgamation of Friendly Societies into one huge Provident Medical Institution, to be served medically by one doctor, with perhaps an assistant. Everything in this institution was to be on a huge scale, except the remuneration and the liberty of the medical man. His work was to be that of several medical men; he was not to be allowed to do it in his own way, but on a system of iron rules, and his salary was to be as small as his liberty. Such arrangements have never had our approval. They did not appear to us likely to secure the best results to the members of sick societies and their friends; they treat thousands of human beings as if they were without choice and preference in regard to medical practitioners; they presume on the eagerness of young medical men "wanting a start" and tempted to overlook what is due to the profession and to seniors who have worked other provident arrangements patiently and conscientiously, and by so doing have formed extensive medical relations with the working classes which are most beneficial and creditable. Moreover, such institutions seem to be manipulated by small committees or caucuses, without reference to the wishes of the members, and with such scanty appreciation of the respect due to professional men, that even the youngest and most eager of these must soon find that in serving them he is serving a hard master. We have on various occasions expressed these views, but never with any but the most respectful feelings to the members of friendly societies, who deserve all praise for their provident intentions and for their efforts to put the medical attendance of the working classes on an independent footing. Our objections meet with striking illustration and confirmation in a pamphlet sent us by Dr. Maunsell, containing letters published first in the *Bath Argus*, and setting forth the arbitrary way in which the Committee of the Bath Amalgamated Friendly Societies' Provident Medical Institute have called for his resignation, without deigning to give any reasons. The only reason seems to be that he appears to have been overcome with doubts as to the perfectly satisfactory working of such institutes, and to have been bold enough to suggest changes for "placing them on a basis that will enable medical men to accept and retain the appointments." He has published letters from gentlemen holding the existing appointments, some of which are no doubt aggravating to committees of such institutes as the B.A.F.S.P.M.I. One honorary surgeon of the Bath Institute, Mr. Hoblyn, says: "I know very little of their rules, or how they intend to work, but from all that I can make out I do not see how any man is to do all the work, and I do not suppose that anyone can retain the appointment longer than six months. For my own part, I do not, at my age, intend to be tied down to them in any fashion. I would not allow myself to be called consulting surgeon, with any definite duties to perform, for a guinea a visit." A medical officer of such an institution writes: "I am working beyond powers of endurance." Another says: "I 'put up' with the work for three years, during which time I suffered enough insult and annoyance to last a moderate lifetime, had it not been condensed into three years. I resigned in disgust because the committee was powerless to enforce their own rules, the members of which body were quite at the mercy of their various clubs, and although quite ready to make rules, only required me to keep them, and always interpreted them as the members of the Association wished. Professionally, the rank and file of the medical profession here put me 'in Coventry;' the consulting men did not actually refuse to meet me, but practically I was outside the profession." The Bath Institute should initiate a testimonial to Dr. Maunsell instead of dismissing him. Let the working classes take the whole profession a little more into their respect and consideration, and they will find that they have no better friends in the dark days of trouble and sickness than the tried practitioners by whom they are surrounded.

COMMITTAL AND DISCHARGE OF DR. WOLFF.

OUR readers will remember that during the conflict of opinions that has raged at the Diamond Fields respecting the nature of the disease which has proved so disastrous in its results, Dr. Wolff has been a persistent opponent of the theory which supposes the epidemic to be one of small-pox. It was with deep regret that we heard of the committal of Dr. Wolff on the charge of "culpable homicide" for having, as alleged, allowed a woman to be exposed to the contagion of small-pox, not only without warning her of the danger, but with the positive assertion that neither infection nor contagion was to be feared. According to the sworn testimony of the witnesses, Dr. Wolff attended a patient who was suffering from an eruptive fever which proved fatal. The woman who laid out the deceased sickened twelve days afterwards and died, from the effects of what Dr. Grimmer, who was called in to see her, declared was no other than small-pox. It was of having indirectly caused her death that Dr. Wolff was accused. For obvious reasons we did not discuss the merits of the case at an earlier date, although we were then, as now, convinced that before a grand jury found a true bill they would have to satisfy themselves—(1) that Dr. Wolff was *primâ facie* answerable for having contributed to the death through wilful and culpable negligence; (2) that he had contravened the 35th section of the Public Health Act, which orders that a medical practitioner shall inform a householder as early as possible of a case of small-pox, or a disease declared by the governor to be infectious, having occurred in his house; (3) that even supposing the deceased to have succumbed to small-pox, the infection was, without reasonable doubt, derived from the source set forth in the indictment. Drs. Sauer, Grimmer, and Smith, who examined the body after its exhumation, were agreed that the death was due to confluent small-pox, and the two former deposed to that effect. Dr. L. S. Jameson, who was called for the defence, is reported to have said that the epidemic is not one of small-pox, and that it is not contagious, and is probably propagated by the soil. Notwithstanding we are entirely opposed to this view of Drs. Jameson and Wolff, we give them the credit of being honestly persuaded of its truth, and it would be unfair to hold Dr. Wolff responsible for the consequences of an error of judgment. As he stated in his defence, if he believed the disease was not small-pox he could not be expected to certify that it was. The present epidemic has not been declared by the governor to be small-pox, and the only disease other than small-pox specified as infectious in the section of the Act above

referred to is syphilis. On these grounds alone, as it seems to us, the prosecution must have failed. Although Dr. Wolff was committed for trial by the local magistrate, the public prosecutor refused to take up the case against him, and a warrant was made out for his discharge. Whilst congratulating Dr. Wolff on his deliverance, we take the opportunity of entreating him and Dr. Jameson to once more weigh the evidence as to the character of the scourge with which the Diamond Fields are visited, and see if they cannot adopt the almost universally accepted belief that they are confronted with what is commonly known as small-pox. As to the executive authorities, we urge upon them the taking of such steps as will render the recurrence of the unhappy affair related above an impossibility.

THE OUTBREAK OF ENTERIC FEVER IN THE GLASGOW HOSPITALS.

DR. RUSSELL, medical officer of health for Glasgow city, has presented to the Health Committee a long and elaborate report on the outbreak of enteric fever in the Glasgow Hospitals. He describes the rise of the epidemic in the Western Infirmary towards the end of August last. The disease was not confined to patients, but attacked the nurses and attendants, and was not limited to any ward or department. In the history of the hospital only one case of enteric fever had ever originated in the building, and that was some years ago, in the person of one of the nursing staff who was in attendance on an isolated patient admitted to the house. As to the cause of the outbreak, water, says Dr. Russell, may always be set aside as an epidemic agent. The fact of cases occurring simultaneously also in the Royal Infirmary and the Belvidere Hospital, institutions deriving a portion of their milk-supply from the same farm, however, at once directed suspicion to the latter as the source of the mischief. On close investigation this suspicion was confirmed. On the farm in question several cattle had suffered from disease, arising, in the opinion of a local veterinary surgeon, from drinking foul water. An analysis made by Dr. John Clark, city analyst, showed the water of the well used on the farm to be grossly contaminated with the products of sewage, indicating that the soil in the vicinity of the well was saturated with sewage matters. There was evidence, moreover, to show that enteric fever was produced in consumers of milk from the farm who were not inmates of either of the hospitals. The report gives in detail an account of the main features of the outbreak in the three institutions up to September 17th. In the Western Infirmary forty-four cases in all occurred; in the Belvidere Hospital thirty-one persons were affected; and in the Royal Infirmary the sufferers numbered twenty-nine. Dr. Russell concludes his report with a severe animadversion on the supineness of the local authority in allowing the district in which the farm is situated to remain in the bad sanitary condition in which it has been long known to exist, and after the attention of the authority had been repeatedly called to the matter.

RHEUMATIC PERIOSTITIS.

A DISCUSSION took place at the recent meeting of the French Association for the Advancement of Science, held at Blois, on a communication by M. Verneuil, entitled "Ephemeral Rheumatic Periostitis," an affection which has not attracted a large share of attention from writers on medicine. It is described by M. Verneuil as appearing in the form of a hard swelling, becoming softer after the lapse of a certain time. Fluctuation, which is sometimes present, leads to the suggestion of pus; but this phenomenon disappears and the swelling subsides. There is no hyperplasia like that seen in ordinary surgical periostitis, no fever, and no alteration in the colour of the skin. In some places the affection spontaneously disappears, in others the swelling first diminishes and then increases in size; there seems to be a congestive element in the swelling, for "when the patient took cold" one of the swellings on the face became double its former size. In none of the cases was there evidence of antecedent syphilis, though the arthritic diathesis was well represented. Many observers who spoke on M. Verneuil's paper had witnessed similar affections. On purely theoretical grounds there does not appear to be any argument against the occurrence of rheumatic nodes or periostitis. We have nothing to do on this occasion with the "subcutaneous rheumatic nodules" so well worked at by Drs. Barlow, Warner, and others. We may also take it for granted that the periostitis was not confounded with the nodose erythemata of rheumatism, where the skin is the site involved. Physicians of large experience cannot fail to have seen examples of periostitis occurring in rheumatic cases. We have no wish to beg the question; and it is right that the whole evidence on which the rheumatic origin of such cases of periostitis exists should be placed clearly before us. In our experience there has been distinct affection of joints of typical rheumatic nature with sweating, and in some instances heart affection and fugitive erythemata with fever of moderate degree. In one case which we recall, the tonsil was also inflamed, whilst there was mitral disease of some standing, distinct affection of both knees and the right wrist, with periostitis of the lower third of the inner side of the right tibia, occurring in a man aged twenty-four, in whom no evidence of syphilis could be elicited, and who was not suffering from gonorrhœa. We should be chary of admitting the presence of rheumatic periostitis when no other "rheumatic" manifestations are to be found. We may also state that in our experience nothing we should call fluctuation was detected. The subject is one well worthy of extensive investigation, and would undoubtedly add to our knowledge of that most protean and most ill-understood affection—rheumatism.

DAIRY FARMS AND SCHOOLS.

WE have received the prospectus of the Southern Counties Dairy Farm Association, Limited, which has been started with the double object of providing farm and dairy produce on sanitary and scientific principles, and of establishing a school at which all that pertains to dairy farming can be practically taught. On a former occasion we wrote at some length on the advantages that would accrue from the adoption of such a line of action. We fear that English dairy farming generally is carried on without due regard to many points essential to the success of an enterprise which, apart from the question of monetary remuneration, has an important bearing on the health and comfort of the community. It is an undoubted fact that the "milk-producing power" of cows is largely under the control of those who have charge of them. The selection of animals suited to certain pastures is of primary importance, but of greater moment still is the development of the resources of grazing and arable land by natural and artificial means. Proper drainage and water-supply need only passing mention. A large field is open for improvement as regards the proper cultivation of the soil, including its preparation for those kinds of pasturage best adapted to thrive upon it. There is no reason whatever why every farmer and grazier should not be able to avail himself of the knowledge which the agricultural chemist and the sanitary engineer are able to give. In the present depressed condition of trade in land there are few, we fear, who will be induced to try what appear to them as new-fangled ideas of getting more for their money and labour than they have hitherto succeeded in doing, unless tangible

results are brought under their notice at some one else's expense. For this reason we trust that associations similar to that above referred to will be multiplied and worked with rigorous economy yet generous treatment. The allotment of "broad acres" into small farms is preferable to the system of extensive "runs," both for the prevention and arrest of diseases that decimate our herds and flocks. This holds good alike as concerns serious epidemic disorders and certain diseases dependent on accident, overcrowding, or the spread and development of entozoa. "Sturdy," or "the gid" in sheep—e.g., which is due to the presence in the brain of cœnurus cerebralis, the larval or hydatid form of tænia cœnurus of the dog, is not nearly so common in enclosed pastures as in unenclosed, where the sheep are herded by dogs. There are many other considerations which might be urged in favour of a more enlightened system of dairy farming than at present obtains, but enough has been written to justify the attempts that are here and there being made to make us at least equal in this matter to our Continental neighbours.

"TEXAN FEVER."

THE stipendiary magistrate at the Birkenhead Police Court had before him on Sept. 17th a very important case for decision. The meat inspector for the Corporation applied for an order to destroy the carcase of an animal belonging to Messrs. Neison, cattle importers, which animal, it was alleged, had died from the effects of a disease known as "Texan fever." The 117th Section of the Public Health Act of 1875 states that if a magistrate is convinced that the meat is diseased he shall condemn it, even if he is not certain that it is unfit for human food. The meat inspector deposed that the carcase of the beast recently killed was deeply bile-stained and was of a dirty yellow colour, that in the fourth compartment of the stomach (abomasum) were a number of erosions and ulcers, that the spleen, which was congested, weighed 9½ lb., the normal weight being about 2 lb. (Armatage gives 2 to 3 lb.) The liver weighed 24½ lb., whereas it should only have weighed about 15 lb. The kidneys weighed 1½ lb. more than normal. He was of opinion that the disease was "Texan fever," which he said was the twin sister of splenic fever. Mr. Moore, V.S., Privy Council Inspector of Cattle, corroborated the inspector's evidence as to the nature of the complaint the animal suffered from. He stated that "Texan fever" was conveyed from animal to animal by direct contagion, and that it took from ten to forty-two days for its full development. Drs. Vacher, Braidwood, and Craigmile gave similar testimony. For the defence, Mr. Wylde, Chief Inspector of Meat for the City of London; Mr. Holman, V.S., Inspector for the Privy Council at Deptford; Drs. Imlach and Paul, of Liverpool; Professor Williams, of the New Veterinary College, Edinburgh; and Inspector Luyd, of Liverpool, were called. The magistrate, puzzled, as well he might be, by the contradictory nature of the evidence, decided the case on the grounds that from his own inspection he could not say the meat was unfit for human food; therefore he could not say it was diseased, and consequently he refused to condemn it. The logic of this argument is a little confused, as it seems to us, yet under the circumstances we cannot impugn the magistrate's decision. Whether there is such a disease as "Texan fever" or not, and whether the animal in question died from it or not, we hold that a very strong case was made out by the applicants. It is not usual for "coarse feeding" nor a sea voyage to cause ulceration of the stomach and enlargement of the liver and spleen to the extent described in this instance. A much wider issue was involved than the mere condemnation of a carcase of beef. If "Texan fever" is a blood disease at all resembling splenic fever, the most rigorous measures ought to be adopted to prevent its diffusion. It is but just to add, that out of 540 animals carried by the same vessel, only one was affected in the manner described. In the event of a like case occurring in the future, we hope that it will receive a full and impartial scientific investigation, so that this vexed question concerning a disputed disease may be finally set at rest.

SUCCESSFUL NEPHRECTOMY FOR CALCULOUS PYELITIS.

La Gazzetta degli Ospitali (Aug. 31st) contains a report by Dr. A. Salomoni of a case in which Professor E. Bottini successfully removed the kidney. The operation was performed at Milan, on the 8th of June last. The patient, Annibale M——, aged twenty-seven, had had two calculi removed by lateral lithotomy fifteen years previously. Three years after that operation an abscess formed in the right iliac fossa. It opened spontaneously, and after a few months reappeared in the lumbar region, when it was opened with caustic potass. A permanent fistula resulted, and proved intractable to all local and constitutional treatment. The patient lying on the left side, under chloroform, Professor Bottini, under strict antiseptic precautions, made a vertical incision through the whole ilio-costal space, three inches outside the quadratus lumborum. The kidney having been isolated, the renal artery was secured in one ligature, the vein and ureter in another. The space having been well cleared and all bleeding stopped, a drainage-tube, about one-third of an inch in diameter, was introduced. The walls of the fistula were excised, and the wound united by one deep metallic suture and eight superficial silk ones. The operation lasted a little over an hour. The antiseptic dressing was renewed daily, the metallic suture was removed on the third, and the silk ones on the fourth day, when the drainage-tube was shortened. It was withdrawn on the eighteenth day. Progress was uninterrupted. The highest temperature, 37·8° C, was reached the second day; urine in normal quantity and without deposit was passed without pain or trouble. The patient left his bed on the sixth, and went home the eighteenth day, when only a slight sinus remained, about an inch deep. The extirpated kidney weighed forty-eight grammes, and measured vertically six centimetres, four across, and two antero-posteriorly. Its consistence was greater than normal; colour greyish. On section the upper three-fourths consisted of fibro-cellular tissue, the lower fourth of renal parenchyma, altered, with the pyramids in process of disappearance. The fistula led into the pelvis of the kidney, which was dilated, with thickened and suppurating walls, and contained, besides some uric-acid sand, two small calculi about the size and shape of grains of barley.

SULPHUR FIRES IN CHOLERA EPIDEMICS.

IN the autumn of 1872, when sanitary officer at the Sonepore Fair and during the height of the pilgrimage, when the people thronged in thousands to the bathing ghats, Deputy Surgeon-General Tuson first used sulphur fires as a prophylactic measure against cholera. These fires were made at fifty yards apart and kept alight during the whole time that the fair was at its height. Not a single case of cholera occurred; a remarkable circumstance, since cholera had generally broken out at previous fairs. A similar good result was obtained at Dinapore, where cholera was actually prevailing. In the pamphlet on this subject, which is published by W. H. Allen and Co., Waterloo-place, Dr. Tuson has adduced certain facts and arguments in support of the contention that sulphur fires are efficacious in epidemics of cholera. The basis of his explanation of their efficacy is the germ theory of the disease.

CARDIOPATHY OF NEURAL ORIGIN.

THE field of nervous disease is a field for all. There seems to be nothing in the disorders of the body which may not emanate from disorder of the nervous system. M. Teissier of Lyons read a paper at the Congress of the Association for the Advancement of Science, held at Blois, on "Cardiopathies d'Origine Spinale." He said that transitory cardiac affections due to nerve disturbance were by no means rare; Graves' disease and the altered cardiac rhythm of certain lesions of the spinal cord—for instance, chronic pachymeningitis—were examples of this. But the influence of disease of the spinal cord in the production of organic heart disease had not yet been demonstrated. Nevertheless, such cardiac changes do exist, according to M. Teissier. The mechanism of their production is either by the induction of trophic changes in the valves, or else by the causation of true dilatation of the cavities of the heart. Trophic troubles are represented by a rarefaction of the fibro-cellular tissue forming the basis of the valves, and chiefly the sigmoid valves of the aorta seem to be affected. This tissue is absorbed much in the same way as occurs in emphysema of the lungs. A small perforation is caused, which increases as the result of the traction of the elastic tissue elements which have remained or form the partitions between neighbouring holes of the same nature. Seven or eight may be seen at one orifice, and several may measure as much as six or seven millimetres in length. It is in the course of chronic affections, such as Friedreich's disease, locomotor ataxy, and paralysis agitans, that these lesions were observed; but they are in no case found more marked than in locomotor ataxy, especially when vaso-motor disorders have been conspicuous. Cardiac dilatations of spinal origin are still less common. A case was given in illustration. The patient was a merchant, who suffered from disease of the cervical portion of the spinal cord, the result of a railway accident. After a period of six months the patient, who had previously been free from heart mischief, began to suffer from palpitation and angina. False rhythm, evidence of dilatation, and the appearance of a basic bruit were found on physical examination. When seen by Teissier, eighteen months after the accident, there was evidence of great dilatation of the right side of the heart. A murmur was heard, which appeared to be exo-cardial. All the symptoms and signs of the cardiac disease subsided as the affection of the cervical part of the spinal cord passed away. Unilateral vaso-motor phenomena in the form of flushings were observed in the course of the case. In this annotation we have simply given an abstract of M. Teissier's paper.

THE HOSPITAL FLOWER MISSION.

THE season for the distribution of flowers in hospitals and infirmaries will soon have closed, but it is not perhaps too late to express our appreciation of the spirit which has during the summer maintained this kind work among the sick. It may stand as a good general rule, that the more sensitive one is to bodily or mental pain, the more capable and desirous his mind is of finding relief in every attraction outside himself. Diversion in one or other form is what he seeks, and what on medical grounds is often prescribed for him, for diversion has much therapeutic value, and even a pharmacopœia of its own. Among its many remedies, none is readier to hand or more widely applicable than that which we are now considering. To no state of illness is the presence of wholesome flowers unsuitable. Almost every invalid can enjoy them through one or other sense. It should therefore be a point of skill with those whose office it is to distribute them to understand and be able to meet the several needs of those whom they visit. A blind man, for instance, cares nothing for a brilliant flower which has no smell; a subdued colour, again, is probably more grateful to a restless temperament than a bright one; a rank odour is in favour with no one; and so forth. The satisfaction with which these flower gifts are received affords abundant proof that judgment is generally used in their selection. There is much, too, in the fact of the gift, and in the way of giving. The sick man, like all others, values what is given him, not only for its intrinsic worth, but even more for the friendly feeling which accompanies it. Many words are not required to express this feeling. The absence of speech in such cases is often a kindness in itself, and this, we take it, most of the flower-distributors know. In consideration of these points, the fact that members of the Flower Mission are usually ward visitors as well, is a circumstance which must commend itself.

TYPHUS FEVER AT CHORLTON-ON-MEDLOCK.

A RATHER serious outbreak of typhus fever has occurred at Chorlton-upon-Medlock. According to the report of the clerk to the guardians eight cases have been shown to have originated in one house. The district may be fitly described as a fever den. The ventilation and drainage are such as to make it matter of surprise that the untoward event that has recently happened has been so long delayed. The inhabitants seem to be living in the most abject squalor. The houses, which are built on the back-to-back system, are in a wretched state of repair; in fact, nothing seems to have been done of recent date to improve their sanitary condition. Those that have become more dilapidated than the rest have been in whole or part appropriated as closets. In three of these a chamber used as a sleeping-room forms the roof of what is nothing more nor less than a cesspool. We learn that disinfectants have been freely distributed, and that the officers of the Nuisance Department of the Manchester Corporation have received strict orders as to the removal of refuse. This is a step in the right direction; but to grapple with the case in its entirety something of a more radical nature will have to be done. The simple removal of filth and the use of carbolic acid can only be of temporary benefit. Unless the account we have received is grossly exaggerated, and we have no reason to suppose that it is, we fear the Chorlton guardians have sufficient on their hands to tax their resources and ingenuity. From a sanitary point of view, the best course would be to close compulsorily all the houses in the district, with a view to their being demolished; but such a proceeding would necessarily involve the provision of domiciles for the evicted tenants, a matter which experience in large towns has shown to be of no inconsiderable importance.

WHOOPING-COUGH AND RESORCIN.

AN excellent monograph on the nature and treatment of whooping-cough has recently appeared at Rio de Janeiro[1] from the pen of M. Moncorvo, a most distinguished member of the medical profession in that country. He accepts in a great measure the consequences of the germ theory as regards pertussis, and looks on the affection as due to the presence of micrococci which proliferate abundantly upon the mucous membrane which coats the upper part of the larynx above the rima glottidis, where the epithelial cells become infiltrated, and which region appears to be the seat of election for the proliferation of the micrococci. Resorcin directly applied to the mucous membrane of the region indicated has led to diminution in the number of spasmodic attacks, which lose their intensity, whilst the total duration of the disease is shortened. The benefit is said to be wholly due to the resorcin, because no other means were employed.

[1] G. Leuzinger & Fils, 31, Rua do Ouvidor; and Paris, O. Berthier, 104, Boulevard Saint Germain.

The drug was used in the strength of a one per cent. aqueous solution as a topical application, by means of a soft brush mounted on a long handle. The application was made three, four, or five times a day.

THE DIAGNOSIS OF CANCER.

FROM a painstaking study of a series of cases M. Rommelaere believed that he had established the conclusion that cancerous affections were attended with a decrease in the amount of urea daily discharged. We have given in outline the results of this observer's examinations in vol. ii. 1883, pp. 379 and 737. MM. Dujardin-Beaumetz and Albert Robin have reconsidered the question, but seem to be unable to support the conclusions of M. Rommelaere. They have shown that the daily discharge of urea may remain normal or even augment whilst cancer is progressing, provided the patients take nourishment; further, it was demonstrated that the daily discharge of urea may diminish considerably in chronic affections of the internal viscera if the patients vomit or cease to take food.

DR. G. Y. HEATH.

OUR Newcastle-on-Tyne correspondent writes:—Some time ago I mentioned with regret the serious accident sustained by Dr. G. Y. Heath of this city, who was driving a pair of horses in an open vehicle, when owing to some mechanical defect in the carriage, it was overturned, and he was thrown with violence against the parapet of a bridge, fracturing four of his ribs. Thanks to the doctor's vigorous constitution and elastic mental organisation, he has made an excellent recovery, and is again to be seen in our midst, having resumed his professional duties. Everywhere he will receive a hearty welcome, for as a citizen, a consulting surgeon, and a teacher, he has long occupied a prominent position in the north of England.

LIGHT AND VEGETABLE CHEMISTRY.

THE effect of light on tissues destitute of chlorophyll has been recently investigated by MM. Bounier and Mangin (Comptes Rendus, xcix., p. 160). Roots, rhizome, flowers, blanched plants, and parasitic plants without chlorophyll—e.g., monotropa—were the materials employed. It was uniformly found that the intensity of respiration was decreased, more carbonic acid being eliminated, and more oxygen absorbed when these structures were placed in darkness than when they were exposed to light. The amount of oxygen absorbed, however, bore the same proportion to the carbonic acid given off in light as in darkness.

THE LEIPSIC CHAIR OF PATHOLOGY.

SEVERAL *savants* have been mentioned as likely to succeed the late Professor Cohnheim in the important Chair of Pathological Anatomy at Leipsic. Amongst them are Dr. R. Koch of Berlin, Professor Klebs of Zurich, Professor Rindfleisch of Wurzburg, Professor Ziegler of Tübingen, and Professor Weigert. It is said that the first named has actually received the "call," and that he has replied by expressing his determination to remain in Berlin, where he will doubtless succeed Dr. Struck as Chief Director of the Board of Health, and be also nominated Professor of Hygiene. It is probable that the choice will lie between Klebs and Ziegler.

DEATH OF DR. OULMONT.

DR. OULMONT, honorary physician to the Hôtel Dieu, and member of the Academy of Medicine, died on the 18th inst. in the seventieth year of his age.

THE MEDICAL SOCIETIES.

THE vacation is gradually drawing to a close, and before long the various Societies will have again commenced work. The Obstetrical Society leads the way on October 8th; the Ophthalmological Society opens on the 9th, and the Clinical Society on the day following. The Pathological Society will hold its first meeting on October 21st; the Association of Medical Officers of Health on the 24th, and the Medical Society on the 27th of next month. The session of the Royal Medical and Chirurgical Society commences on October 28th, and the Epidemiological Society on Nov. 5th.

SEWER VENTILATING PIPES OPENING AT HIGH LEVELS.

WE are glad to see that the suggestion we made repeatedly some time ago for the benefit of Brighton has been adopted by the Corporation of the City of London, and that the Commissioners of Sewers are about to arrange with all builders of new houses to construct pipes for ventilating the sewers, and to carry them to a level above the roofs of the houses. When this is done the ground-level openings can be closed, and then the plague of sewer gas will be a thing of the past.

"HIGH" GAME.

IT is sheer wantonness to throw away game because it happens to be a little "high," but is it necessary to use permanganate of potash to purify it from the taint, though that is sometimes used successfully if carefully employed? It will generally suffice to cleanse the game thoroughly and wipe it quite dry with soft cloths, rubbing a little salt into the worst parts. Game which is simply "high," without being *putrid*, is particularly easy of digestion, and of great value to invalids.

A MINISTER OF HEALTH.

IN his presidential address at the Social Science Congress, Dr. Norman Chevers urged the need and importance of appointing a Minister of Health. We have so repeatedly insisted on the wisdom of creating such an office, that we cannot but hail the revival of the proposal by the President of the Health Department of a body largely representing public opinion.

THE International Association of Surgical Instrument-makers held its second annual meeting at Dresden on the 15th to the 18th inst. There were about seventy members present from Germany, Austro-Hungary, Switzerland, England, Roumania, Russia, &c., and the Association has doubled in numbers since its formation last year. The objects are to protect the medical profession and the public from badly constructed appliances. The topics mainly discussed at this meeting concerned the establishment of a journal devoted to the publication of new and improved instruments, and the means for training the *employés* in the objects and methods of their work. The next meeting will be held at Berne.

THE Aberdeen University Court has appointed the following six gentlemen to be Extra Professorial Examiners in Medicine for next year—viz.:—Dr. John Alexander, Glasgow; Dr. Alex. Campbell, Dundee; Dr. Alfred H. Carter, Birmingham; Dr. J. A. McWilliam, London; Mr. Frederick Treves, London; Dr. Francis Warner, London.

THE Harveian Oration will be delivered by Dr. Russell Reynolds, at the Royal College of Physicians, on Saturday, Oct. 18th, at 4 P.M.

THE *Bombay Gazette* says: "Cholera has broken out at Ecossim and Penga de France, Goa, where five fatal cases have occurred. It appears that the disease has been imported by Hindoo pilgrims who have just returned from Pondichery, where cholera is prevalent."

WE learn from Indian papers that typhoid fever is very rife at Simla and Murree, which, in place of being "health-resorts," are, owing to the want of sanitary arrangements, proving themselves to be death-resorts.

DR. KOCH is now giving a course of lectures in Berlin, the purpose of which is to instruct military medical officers in the microscopic investigation of the cholera bacillus, with a view to the prompt detection of cases of Asiatic cholera.

IT will be interesting to many of our readers, especially at the present time, to learn that the Ocean Steam Yachting Company, Limited, purpose sending the *Ceylon* on a cruise to the Mediterranean as far as Alexandria.

WE learn that the medical officers of the Indian Medical Service propose to present to Mr. E. Gibson, M.P., a testimonial in recognition of his efforts to obtain a removal of certain grievances of which they complain.

IT is understood that the scheme for the employment of female nurses in the naval hospitals is to come into operation experimentally at Haslar Hospital on Oct. 1st. Nine trained nurses have been engaged.

TYPHOID fever is reported to be on the increase in Paris. The Seine is in a foul state, smelling like an open sewer. Even the drinking water has a distinct odour which is only removed by boiling.

A SEVERE epidemic of measles is reported to be prevalent at Bolton.

THE BIOLOGICAL LABORATORY AT THE HEALTH EXHIBITION.

No. IV.

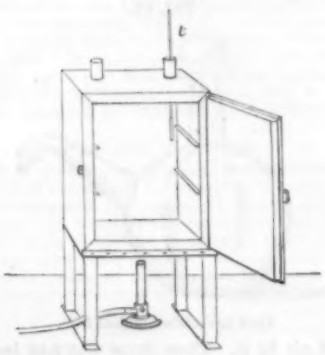
ORGANISMS PRODUCING CHANGE OF COLOUR IN THE MEDIA IN WHICH THEY GROW.

CERTAIN bacteria produce colours in the media in which they grow. They are characterised by their form and their manner of growth in solid media in the same way as others, and possess this striking feature in addition. The colour produced by an organism is always the same under the same circumstances, and is a constant character of the species. The colouring matter is round about the organisms, not in them; and in many cases it is formed only when in contact with the air. The bacteria of this character cultivated in the laboratory are the following: Micrococcus prodigiosus, which produces a crimson colour; Micrococcus Indicus, producing a bright rusty red; the "*violet*" and "*fluorescing*" bacilli; the bacilli of green and of blue pus; and a species of Sarcina, which produces a yellow colour. Two species of Torula are also cultivated, one of which produces a beautiful coral red ("Rosahefe") and the other a black colour.

METHODS OF CULTIVATION.

In cultivating the bacteria which have now been described, it is of essential importance to have trustworthy means of sterilising the apparatus and fluids used. In sterilisation by heat, it must be borne in mind that, besides the active, rapidly dividing form of the organism, which is readily killed by the temperature of boiling water, there is another form, that of the spore, which is more resisting. These may be raised to a considerably higher temperature in the dry state, without being killed. In order to ensure sterilisation of the vessels &c. used in cultivations, they are heated to a temperature of 150° C. for three hours. This is done in the hot box represented at Fig. 15. It is made of sheet iron, and the walls, floor, door, and top are double, and contain air. It is heated from below by a Bunsen's burner. The vessels to be sterilised are first cleaned and firmly plugged with cotton-wool.

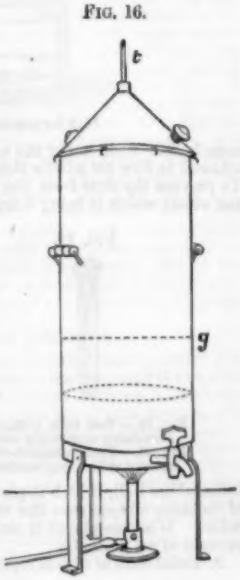
FIG. 15.



Hot box for sterilising apparatus, at a temperature of 150° C.

Fig. 16 represents a convenient form of *steaming apparatus*. It is a cylindrical box with a conical lid. An iron grating is fixed at a level below the middle, and serves to support what has to be steamed. The water is poured in from above, and heated by a Bunsen's burner. The box and lid are invested by a thick layer of felt, which reduces the loss of heat, and so maintains the interior at a uniform temperature. A hole in the top of the lid admits a thermometer, which is held in place by cotton-wool.

FIG. 16.



Steaming apparatus.

VESSELS.

A peculiar kind of flask is used to contain a sterilised fluid, and is so constructed that part of the fluid may be poured off without the remainder becoming infected from the air. It was introduced by Sir Joseph Lister. A wide neck opens into the body of the flask. To the side is attached a spout, which gradually narrows and is bent over at the end. A sort of collar a little above the mouth of the spout allows a cotton-wool cap to be fixed over it. When the flask contains some sterilised fluid both apertures are closed by means of cotton-wool caps. When it is desired to pour off some of the fluid, the cap is removed from the spout for the purpose. When sufficient liquid has passed out the flask is set upright, and the part of the contents

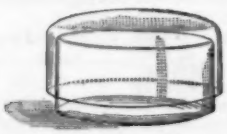
which is contained in the spout flows back into the body of the flask. There remain, however, in the extreme end, which is bent over, a few drops, and these serve the purpose of closing this orifice and preventing the

FIG. 17.

Flask to contain sterilised fluid.

entrance of air by it. These drops may now be removed with a purified cloth, and the mouth cleansed with an antiseptic and covered again with the cap. On again removing liquid from the flask, the first part which flows over the

FIG. 18.



Dish for patato cultivation &c.

mouth will wash away the antiseptic, so that the stream is allowed to flow for a little time before the liquid is collected. To prevent the dust from the air falling into the mouth of the vessel which is being filled, it is convenient to use a half

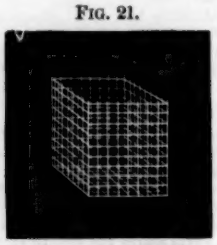
FIG. 19. FIG. 20.

FIG. 19.—Test tube plugged with cotton-wool, and containing cultivating medium.
FIG. 20.—Flask plugged with cotton-wool, and containing cultivating medium.

indiarubber ball, which is perforated in the middle to admit of its being slipped over the mouth of the spout above the collar. When so placed it shelters the space below it in the manner of an umbrella.

A useful form of dish is represented in Fig. 18. It consists

FIG. 21.



Crêle to contain test tubes.

of two similar parts, one of which fits over the other as a cover. The floor of the inner one is flat, so that plates &c. placed in it are approximately level. Cultivations are usually contained in test tubes. These should be wider than are generally employed for chemical purposes. When they are to be sterilised in the hot box they may conveniently be contained in the wire framework represented in Fig. 21. Fig. 20 represents a form of flask which is convenient for containing milk, bread infusion, &c.

The *inoculating needle* consists of a piece of platinum wire which is fixed in the end of a glass rod. Before it is used for inoculation it is passed through the flame of a spirit lamp, so as to kill any organisms which may be adhering to it.

Pharmacology and Therapeutics.

ROOT OF COTTON PLANT.

HAVING learnt that in America the root of the cotton plant (Gossypium herbaceum) is employed by doctors as a substitute for ergot of rye, M. Prochownick of Hamburg has studied the subject. There does not seem to be any glucoside or alkaloid in the root. Clinical observation goes to prove that a fresh infusion of the root best preserves the properties of the remedy. Administered as a fresh infusion in doses of from three to six or ten grammes, the root gives rise to intermittent uterine contractions like those pertaining to the natural process of parturition. Owing to these effects the drug may be given before the birth of the child, whereas ergot cannot be so recommended. The new remedy is not so powerful in its action on the smooth muscle fibre of the uterus, and so is of less value in post-partum hæmorrhage. M. Prochownick has used the infusion of the root of the cotton plant in some cases of metrorrhagia due to fibroid tumour. When given at the time of the hæmorrhage, the infusion does not influence the loss of blood; but if administered immediately after the bleeding the further losses are diminished in quantity, and occur at longer intervals. It is said that fibroid tumours have diminished in size under this treatment, and no increase in size has taken place in cases where the drug has been administered several months without intermission. The daily allowance is a single dose of ten grammes, or fifteen grammes in two doses. The same doses may be employed in cases of subinvolution. The commercial cotton plant ought to be macerated in cold water before making the infusion.

SCOPOLIA JAPONICA.

"Japanese belladonna root" has been the subject of an investigation by Professor Eykman, who confirms the results reported by Dr. Langgaard (*Pharmaceutical Journal*) so far as relates to the presence in the root of an alkaloid capable of dilating the pupil; it is stated that the mydriatic action is exercised by a solution of the strength of 1 in 5000. The fluorescence observed by other chemists in aqueous extracts of the root appear to be due to a non-nitrogenous body, obtained by exhaustion of the root with chloroform, and which has been named "scopoletin." It forms colourless needles or prismatic crystals, and is soluble in hot alcohol or boiling water; the aqueous solution has an acid reaction and both solutions a strong blue fluorescence. Scopoletin is said to be the decomposition product of a glucoside named "scopolin," which has a narcotic action but does not dilate the pupil.

KOLA NUT.

Specimens of fresh and dry kola nuts, Sterculia acuminata, a native of tropical Africa, were shown at the Société de Thérapeutique by M. Dujardin-Beaumetz. The nut contains a large proportion of caffeine, as well as a small quantity of theobromine and tannin. It is employed in the Soudan in two forms: as an infusion and for mastication, the nut being first roasted and then powdered. M. Dujardin-Beaumetz has used the article in cases of chronic diarrhœa with excellent results, thus confirming the statements of naval surgeons who have employed the remedy in the diarrhœa of Cochinchina. In cardiac affections where there is a tendency to asystole the drug has been found to act like coffee and caffeine, as a diuretic and as a tonic to the heart muscle. In many maladies showing signs of adynamia the tonic and stimulant properties of kola nut are of much value. M. Dujardin-Beaumetz has used the infusion of the burnt nut in the dose of fifteen grammes to a cup of water. An elixir or tincture has been prepared from the fresh nut and administered in doses of a dessert to a tablespoonful. Other alcoholic preparations may be made.

PHELLANDRIA.

This ancient remedy has received fresh attention, and is said to be a most valuable agent in treating various affections of the chest characterised by excessive cough, whether dry or attended with expectoration. Its action appears to be of a sedative as well as of an alterative and strengthening kind. Narcotism is not produced by its administration. It appears to have a special action against pulmonary phthisis. The most acceptable preparation is the syrup of phellandria used in a concentrated form. Other preparations, such as the arseniate of iron, may be advantageously prescribed with the syrup.

BORATE OF QUININE.

This salt of quinine has been prepared by Zimmer of Frankfort-on-the-Maine. It is an amber-coloured powder of faintly bitter taste, and soluble in an equal weight of water. The dose varies from eight to sixteen or more grains. In chronic and acute diseases it is said to be borne even better than the hydrochlorate, particularly if given in wafer capsules with water or a little wine. The preparation is cheaper than other salts of quinine.

CEREBRAL ANÆMIA AND HYPERÆMIA.

Curci has shown, by trepanning experiments on dogs, that chloral, chloroform, ether, paraldehyde, and quinine produce anæmia, whilst morphia and nitrite of amyl cause hyperæmia of the brain. Atropine in small doses has but little effect; in larger doses it is rather an "anémiant."

PURE CANNABINE.

Some months ago the tannate of cannabine was highly recommended as a soporific and substitute for morphine. But as the tannates of organic radicles are said to have a very indefinite composition, and are only of value in masking the taste of the alkaloid itself, Eugene Bombelon of Neuenahr has proposed to employ pure cannabine. The tannate is first prepared by precipitation, and then decomposed by means of oxide of zinc. Cannabine appears as a greenish-brown dry powder, volatile without residue on platinum foil. It is a prompt soporific in doses of ·05 to ·1 gramme, and is said not to be preceded by a period of excitement. The pure drug is tasteless, insoluble in water, but readily soluble in alcohol, ether, and chloroform.

KAIRIN.

Chlorhydrate of kairin has again been the subject of investigation—this time by M. Dreby of Lyons. As the use of the drug is yet in its infancy, we shall give here a *résumé* of the latest worker's conclusions. Kairin may be given in doses of from six to eight grammes a day without inconvenience to the patient. It may be given in all febrile states, but more especially in cases of meningitis, acute articular rheumatism, and typhoid fever. By its action on the heart and pulse the remedy is really antipyretic. Like quinine, it is a powerful antiseptic agent. Kairin may be an efficient antipyretic when quinine and other agents fail. It does not act by causing stimulation of the vaso-motor centre, nor by diminishing the excitability of the heat-regulating centres, but by lowering the activity of the tissue changes. The accidental discomforts, such as vomiting, frontal headache, collapse, and cyanosis, are very unfrequent and not marked, with the exception of the chill which attends each fresh elevation of temperature.

FRUIT OF CALABASH TREE.

Dr. Peckolt, of Rio Janeiro, who has contributed so much to the history of South American plants, has published a communication upon the fruit of the "calabash tree" (Crescentia cujete, L.) The plant is generally supposed to have been introduced into America from Africa by negroes; but Dr. Peckolt says that the Portuguese found it in America on their arrival. At any rate, it has long been utilised by the natives for economical and medicinal purposes. The flesh of the barely ripe fruit and the expressed juice of the fruit are popularly esteemed as medicines, and Dr. Peckolt confirms the estimate of the latter as a laxative. An alcoholic extract, in doses of ·10 gramme, had the effect of a mild aperient, and the quantity could be increased to ·5 gramme, which exercised a strong drastic action without griping or ill effects. As an application against erysipelas, the fresh pulp is boiled with water until it forms a black paste, to which vinegar is added and the whole boiled together, after which it is spread upon linen. A chemical examination of the fresh fruit pulp yielded a new organic acid, crystallising in plates, to which the name "crescentic acid" has been given. It was obtained by exhausting with water an alcoholic extract of the pulp, heating the aqueous solution with lead acetate, suspending the lead precipitate in water, and decomposing and removing the lead, then evaporating the solution to a syrupy consistence, and leaving it to crystallise in a cool place. Besides crescentic acid, there were found tartaric acid, citric and tannic acids, two resins, a bitter, and an aromatic extractive substance, and a colouring matter that appeared to resemble indigo (*Pharmaceutical Journal*).

FLUORIDE OF QUININE.

Fluoride of quinine has recently been recommended by Dr. Weddell of Calcutta in the treatment of enlarged spleen. He has investigated the action of fluoric acid and the fluorides, and has come to the conclusion that in cases of chronically enlarged spleens of malarial origin the effects obtained are often very striking. In very small doses the fluorides have produced marked benefit in cases of rickets and other diseases associated with malnutrition of the osseous system. Of the salts of fluoric acid, Dr. Weddell considers those of quinine or quinetum (i.e., of the mixed cinchona alkaloids) to be the best.

ARTIFICIAL (?) CONIINE.

Some researches made by Herr Ladenburg some time ago led him to believe that some propyl derivatives of pyridine had a close resemblance to the natural alkaloid conia. After some trouble the one of these derivatives which appeared to be the most promising (α—isopropylpyridine) has been isolated and purified. The smell of the base is described as being strikingly similar to that of conia, and some experiments on frogs showed that the two bases (artificial and natural coniine) correspond in their physiological action. The specific gravity of α—isopropylpyridine at 0° C. is ·8660, that of coniine being ·8625; the former boils between 162° and 164° C.; coniine boiling at about four degrees higher. The two hydrochlorates, the hydrobromates, and the platinum salts correspond in crystallisation and solubility, but the hydrochlorates and hydrobromates differ slightly as to their melting points. The two bases also behave similarly towards certain precipitants. Herr Landenburg is inclined to look on the slight differences hitherto observed as being connected with the optical inactivity of the artificial base, and he thinks it is possible that if the base can be split up into its two optically active components, the dextro-rotatory portion will prove to be perfectly identical with conia.

SALICYLATE OF ATROPINE.

Salicylate of atropine appears to be in some quarters displacing the sulphate. Herr Frederici has prepared the neutral salt by dissolving the atropine (twenty-three parts) with the aid of gentle heat in a suitable quantity of pure alcohol, and then adding the salicylic acid gradually to complete neutralisation (eighteen parts), the solution being carefully tested with litmus paper during the operation. The liquid is then evaporated in a water bath to a gelatinous consistence, the mass assuming an amber colour, and the drying is finished in a sand bath or drying closet. The compound deliquesces quickly when exposed to the atmosphere, but is said to keep well if properly preserved, though the solution is very unstable.

CONVALLARIA MAJALIS.

As the result of a series of experiments made by M. Reboul on the physiological action of convallaria on the heart of warm-blooded animals, the following conclusions have been drawn:—Convallaria acts primarily on the nervous system of the heart, and more especially on its intracardiac elements; the chief effects observed consisted in the slowing or arrest of the cardiac beats (*Lyon Médical*, Nos. 37 and 38). Several tracings illustrating the effects of the drug on the cardiac beats and blood-pressure are given in the paper by Reboul.

THE Director-General of the Army Medical Department visited Aldershot on the 19th inst. for the purpose of examining the medical officers who have been undergoing a course of Army Hospital Corps instruction during the past three months. Dr. Crawford also examined two large classes of non-commissioned officers and men of the Army Hospital Corps who have been undergoing the special course for some months past.

THE INTERNATIONAL HEALTH EXHIBITION.

COWLS AND VENTILATORS.

THE problem of ventilation should occupy a large space at the Health Exhibition. It is a question that affects everybody. Whether well or ill, an adequate air supply is equally indispensable for the maintenance of health or the curing of disease. At the Health Exhibition this all-important question is treated in a somewhat irregular manner. There is a small gallery or annexe close to the Central Gallery devoted exclusively to ventilation, where rival cowls in regimental array stand in long rows defiantly facing each other. But many more cowls may be found in quite another part of the Exhibition—namely, the section devoted to machinery in motion. We cannot attempt to describe individually all these contrivances; the battle of cowls has not yet been definitively fought. There are three or four rival principles governing the manufacture of cowls, but the votaries of each system imitate each other so closely that it is almost impossible to discern any crucial difference between them. Best known among the manufacturers of ventilating cowls is the name of Boyle, but in close opposition, and acting on a very similar principle, are the ventilators of Messrs. C. Kite and Co., Mr. Buchan's ventilator, and others. In each case the air strikes upon the angle of a metallic plate and is deflected to either side. The deflected wind passes in front of an opening, and produces a suction which creates the up draught. This opening is protected from the direct current of air by a metallic plate or shield; thus the air cannot blow over the chimney or pipe, cannot pass through the ventilator, but is turned aside; and this passing round instead of across the pipe gives rise to the upward suction within the pipe, which almost entirely obviates the danger of a down draught. A plane pipe without any cowl will, it has been shown, draw up, under certain conditions, as much air as the best ventilating cowls; but it cannot prevent the occasional down currents, and is less effective when there is only a very slight wind blowing. Mr. Buchan asserts that on one occasion his ventilator drew up 82,739 feet more air in eighteen hours than any of the rival ventilators with which it was competing. On the other hand, Messrs. Kite and Co.'s ventilators are much cheaper, and no one has studied the question without meeting endless and voluminous reports in favour of Boyle's patent. In any case, none of these are new inventions; and, indeed, though this section of the Exhibition is useful, it is certainly not very fruitful in new ideas.

Other cowls also act by deflection, but the wind is allowed to pass over the top of the pipe. In this case the deflectors are horizontal instead of perpendicular. The wind is thrown upon a covering and deflected at an obtuse angle that prevents its rushing down the pipe, and in describing this curve it produces a vacuum and consequent suction. Messrs. Sharp and Co. exhibit several cowls that work on this principle, and the same may be said of the exhibits of Dr. H. B. Dows' cowls, which has the further advantage of great simplicity. Steven's patent is very similer, and extensively patronised, while Kershaw's is a little more complicated and a trifle dearer. Both Messrs. Hill and Hey and Benjamin Hainsworth work on the same principle, but they combine their exhaust cowls with an inlet. This is a method we are not prepared to approve unless it be applied in a very different manner from that shown in the prospectuses of these firms. The cowl communicates with the centre of the room or apartment, and at once lets down air and draws air up. This double action is supposed to ventilate the room, but we fear it will only ventilate the air shaft, for if the inlet be not at some distance from the outlet a large portion of the air brought into the room will be drawn out again before it has time to reach the inmates. The last-mentioned firm also shows cowls constructed on the third of the four leading methods to which we have alluded. These are cowls which revolve either by the force of the wind or by the employment of some artificial power. In revolving the cowls act upon an archimedian screw below, which draws up the air within the pipe or shaft. Messrs. Ewart and Son and Mr. James Howorth also employ the archimedian screw, but the latter is able to apply it in a horizontal as well as a vertical position.

The fourth principle on which these cowls are built is similar to that which we described when speaking of the Papier ventilator exhibited in the French court. The action in this case is produced by imparting a rotatory motion to the air as it blows into the cowls. For this it suffices to make channels of a screw-like shape, and the air passing up these is converted into a sort of whirlwind when it reaches the centre and summit of the pipe or air shaft. This whirlwind has the effect of drawing up the air below, which rushes up to fill in the vacuum of the spiral. Messrs. W. Lord and Co., in their patents brought out last year, have cleverly contrived blades so as to catch the wind which ever way it may blow, and have also applied their system to railway carriages, where it is very much wanted. Lambs' ventilators revolve while giving a spiral motion to the air, and have been also much recommended. These cowls are employed for chimneys as well as for ventilators. Another chimney cowl is brought out by the Atmospheric Cowl Company, similarly based on the spiral system. The air in this case is admitted by a long spiral slit, which, however, is so narrow that it obviously runs great risk of being choked up with soot.

Instead of one or two expensive cowls, Mr. H. Thompson, C.E., has devised a ventilating ridge-tile, which he proposes to place along the entire ridge of the houses. Shafts communicating from the ceiling of each room to the attic would carry away the heated atmosphere. How far a down draught might result is an open question. But a little extra expense would obviate this danger. Mr. Thompson has an ornamental glass globe which he places near the outlet. The globe is loaded with mercury, and a weighted tube rises as the heat of the room expands the mercury. This action opens the valve in the outlet, the warm air escapes and automatic action is secured. The facility of application and the inexpensive nature of these contrivances commend themselves to all who are about to build houses.

With respect to inlets for ventilation, Ellison's conical ventilators are specially worthy of notice. These were exhibited during the Medical Congress of 1881, and we then described them at some length. The principle is that air should be admitted as through a trumpet. It is then so diffused as to prevent draught; but if it comes through a straight aperture or tube it will travel in a straight line, and therefore cause a cutting draught. Messrs. Hale and Co. have a more elaborate system of inlet by which the air is carefully diffused before it is admitted into the room. Doubtless draughts are thus avoided, but some scientific experiments should be instituted to ascertain how far these precautions reduce the volume of air drawn in.

We also observed a great number of patent window sashes which are intended to prevent accidents while cleaning and to facilitate ventilation. These are great improvements on the clumsy method generally used. We would recommend Meakin's sash fastener and opener, which by rendering the closing and opening of windows a matter of great facility incidentally promotes ventilation; as the window can swing forward they can be cleaned without danger. Mr. W. W. Nicholls has a method for opening both windows at once, the one balancing the other. For fanlights Leggott's and Bruce's patents may be recommended; but Messrs. Rownson, Drew, and Co. exhibit, in the South Central Gallery, an improved folding lattice shutter that will contribute most effectively to the ventilation of houses, especially when placed in somewhat isolated positions, suburban villas, &c. This is a strong, compact trelliswork fixed inside the window. It would be more difficult to break through this folding lattice shutter than through an ordinary window, so that the house may be thoroughly aired even when there is no one left to guard it.

Before concluding, there is one phase remaining, to which however, we can allude only in an apologetic manner, for it is impossible to render justice to the question in a short paragraph,—we mean the problems involved in the use of mechanical ventilators, such as the huge bells of the Norton ventilator, which, moving up and down in a cylinder, forcibly pump out the foul air from the cabins of ships; or Aland's patent induction ventilating fan for coalpits, and Capell's double-power blast fan. For the ventilation of houses, and especially public or large buildings, Blackman's air-propeller should be studied with attention. The theory on which this invention is based is that "the amount of air moved per horse power by any air-moving machine has definite relation to its feed and delivery surfaces." To ensure the best result it is maintained that the mechanical propeller should not be enclosed in any case or tube, but be allowed to feed itself from all sides. Acting upon this, the

fans in question may be seen in full action, and crowds of visitors daily expose themselves to the powerful currents of air they create.

In conclusion, we regret to note the Æolus waterspray ventilator can only be seen in action at the vegetarian restaurant, as it well deserves to take its place among the many contrivances which we have examined.

SOCIAL SCIENCE CONGRESS.

THE following is a brief abstract of the most important papers which were read in the Health Department of the Social Science Congress, held at Birmingham on Sept. 17th and following days.

Dr. Norman Chevers, President of the Health Department, in his address on Health in England remarked that no power of concentrating language would enable him to detail within the space of time at his disposal even a bare list of the grave sanitary shortcomings which every stranger must perceive within a week after he sets foot on British chalk; and that though no one esteemed and gloried in more appreciatively than he did the admirable work done in the past half century by such sanitarians as Chadwick, Miss Nightingale, Simon, Sidney Herbert, Sutherland, Parkes, Gavin Milroy, Benjamin Richardson, Netten Radcliffe, and George Buchanan, yet he recognised with painful clearness the disheartening fact that without powers full almost to benevolent absolutism, the benefit conferred upon their suffering fellow-countrymen, even by such enlightened administrators of the public health as these, must always be very tardy in its advance and very narrow in its scope. He could not hope to live to see the day, but confidently anticipated that all who do will find that in a very short time after the appointment of a Minister of Public Health, invested with great powers, against which all narrow self-interested opposition will be futile, and commanding large means, nothing more will be heard of sewage-poisoned rivers, smoke and fog-blocked cities, or of public buildings and attractive suburban retreats constructed upon burial-grounds, quagmires, or abandoned lay-stalls; and, in addition, due regard will doubtless then be paid to the control of our charities for the sick, of some of which, as they were ruled in his time, an old writer said, "They are like children with water on the brain: the limbs wither as the heads increase."

Mr. Bayley described a method of treating human bodies for the prevention of putrefactive changes.

Dr. Pringle, in a paper on Asiatic Cholera and some of the Lessons learnt in its Home in India during Thirty Years' Service, divided the subject into four heads—viz., Origin, Spread, Treatment, and Prevention. Origin: With the single exception of the cholera epidemic of 1882-83, which appeared to come back from the Punjab to Bengal, every cholera epidemic of the past thirty years has originated in Lower Bengal, and worked up to the north-west, and so passed out of India. Spread: Judged by the experience of thirty years' observation in India, and the spread of the cholera outbreak from Juggernauth, on the Bay of Bengal, in 1856, and those at Hurdwar, on the Ganges, at the foot of the Himalayas, in 1867 and 1879, at all three of which Dr. Pringle was present as medical and sanitary officer of the district, Dr. Pringle appeared to favour the view that the disease spreads by human intercourse, though not in the contagious and infectious manner seen in small-pox and similar diseases. Treatment: Dr. Pringle's views on this subject were those of believers in the theory of elimination of the poison, and he was strongly opposed to the employment of opiates and alcoholic stimulants, as he was satisfied that, in the stage of reaction, and consequent reabsorption following that of collapse, they tended to the production of, if they did not actually produce, the febrile symptoms and those of congestion, which often proved fatal after the stage of collapse had been passed through. Dr. Pringle also contended that there was no such stage as premonitory diarrhœa. In true cases of Asiatic cholera in India, hundreds of instances are known in which the sufferers were in perfect health till they were seized with cholera, which, in a few hours generally, in severe epidemics proved fatal. Prevention: That which removes the conditions which produce diarrhœa and dysentery, and which seeks out and treats these cases, is the best measure of prevention. Quarantine on land is worse than useless: it conceals the disease when present, and secretly admits it when, till then, absent. In the case of railway changing and halting stations, special arrangements for the inspection and treatment and ultimate removal to destination of all suspicious or real cases of cholera will obviously be most beneficial. In the case of infected ships, a careful and independent inspection of crew and passengers should be made, and, as in changing and halting stations, special arrangements either on board another ship or on land should be available for the cure and treatment of the sick, and when the ship is empty it should be thoroughly fumigated and cleaned out.

Dr. Pringle also read a paper on Vaccination and Revaccination.

Dr. Page read a paper on the Sanitary Test Value of the Mean Mortality, with Suggested Means for Reduction of Child Mortality.

Mr. T. Pritchard, in discussing the question, What are the Best Means of Dealing with Town Sewage? premised that the answer some fifteen to twenty years ago would have been in favour of irrigation; the experience of the last few years had, however, caused a considerable modification of his opinion as to the best method for adoption, varying according to local circumstances and conditions. The author called attention to the conflicting opinions of chemists regarding the oxidising properties of rivers, for the purification of sewage effluent, when discharged into running water many times its volume, and pointed out that there are three methods generally adopted in this country for the disposal of town sewage—viz.: 1. Land purification. 2. Chemical precipitation. 3. Discharge into the sea. After discussing these methods in detail, the author concluded his paper by stating that no one particular system for the treatment of town sewage could be adopted for universal use, but that the local conditions and circumstances connected with each town must be carefully considered and a method of sewage disposal prepared in accordance therewith.

Mr. Lawson Tait, in a paper on the Utilisation of Town Refuse, remarked that few of the many questions which have engaged the efforts of sanitary authorities during the brief period in which real attention has been given to the care of the public health have caused so much anxiety as the disposal of town refuse. In a few favoured places the difficulties had not been pressing, but in a town like Birmingham, the rapidity of whose growth has been almost unexampled, and situated as it is in the centre of England, with a river no larger than a brook, the difficulties and dangers of the disposal of refuse have risen to an extent probably unknown in other large centres of population. Mr. Tait then described the process for the utilisation of the refuse as adopted in Birmingham, by burning the household refuse and subjecting the excreta to intense heat—these two varieties of refuse being in collection kept entirely separate.

Dr. Joseph Rogers read a paper on the Relations between Boards of Guardians and their Medical Officers. In introducing the subject, Dr. Rogers gave a brief sketch of the causes which led to the introduction of the new Poor-law, 1834, and showed that whilst every conceivable factor in the production of pauperism was inquired into by the Commission that sat in 1831, 1832, and 1833, the subject of sickness was altogether ignored; that as a result the Commission did not refer to this question in their report, and that the arrangements made for the treatment of the sick poor were conceived in the harshest and falsest economic spirit. Dr. Rogers then pointed out the nature of the reforms he advocated, which were an extension of the dispensary system, which had been established in London and in Ireland, to all unions and parishes in England and Wales; and, with the view to the improvement of the status and emoluments of medical officers, that their stipends should be paid wholly either from a county rate or from the Consolidated Fund; and that a larger measure of discretion should be accorded to those gentlemen in determining what medical comforts should be given to the sick poor under their charge.

Mr. R. Denny Urlin, in a paper on the Future of some of the London Hospitals, stated that there have been counted in a single copy of a London evening paper no fewer than ten urgent appeals for pecuniary aid on behalf of hospitals in or near to London. From many such instances it may fairly be concluded that, in spite of Saturday and Sunday Funds, there are a number of unendowed hospitals which cannot now pay their way; while as London grows, and contributions fall off, some of them will probably collapse. If this fate befell some of the small specialist institutions it would be no great loss; but there are others which from their posi-

tion and mode of operation have become public necessities, and, if they are to be maintained, there must be sooner or later a subvention from public funds. This will certainly bring with it some degree of inspection and control, which will be advantageous. It is reasonable that any building which shelters a large number of inmates should be periodically inspected by a responsible officer. At present a hospital may be planned, built, and carried on without any due security for the safety and health of the inmates, and solely at the caprice of a secretary and a board; it may be rarely meeting and without special aptitude for this important work. Inspection for sanitary and other purposes should be compulsory in case of all such structures, while audit should be imposed as the condition of obtaining any grant from Government or local funds.

Dr. P. Murray Braidwood, in a paper on Hospital Ships, after describing the drawings he exhibited of two designs representing vessels of different classes or types, but of similar dimensions—viz, what are known as "spar deck" and "shade deck" steamers, remarked that at present the method adopted by Governments is to charter at the lowest freight rate the largest steamers available, and to convert them into hospital ships. Now, all medical men know that the treatment of sick and wounded persons in a building which has been converted from an ordinary dwelling-house into a hospital is always most unsatisfactory. Hence it is deemed necessary to erect, on shore buildings specially constructed for hospital purposes. It seemed to the author, therefore, that modern advancement requires that we afford equally suitable accommodation and arrangements for the treatment of the sick and wounded at sea. The objection of expense the author met by stating that it would be cheaper to build outright a hospital ship than to convert a trading steamer into one, and that such a steamer would serve best for the transport of troops, and if not required for either of these purposes, it could be utilised as a ship for convalescents.

Dr. Ashby, in considering how far may the average death-rate of a population be considered an efficient test of its sanitary condition, and by what means can the high death-rate of children be reduced, remarked that the causes of the high mortality are very complex, and include the influence of the health and life conditions of the parents in producing weakly children, insanitary conditions of dwellings, insufficient ventilation of rooms, and effects of smoky atmosphere, improper feeding of young infants, employment of mothers in mills &c., bad effects of burial clubs, poverty, degradation, and drunkenness of parents. In discussing the means to be adopted to reduce the high death-rate the author alluded to:—1. Improvement in the surroundings and homes of the working classes, provision of open spaces, diminution of smoke, improved dwellings, checks on burial clubs and friendly societies. 2. Improvement in the habits and status of the working classes by means of education, by extension of ladies' sanitary associations for systematic work among the poor.

In the opening of a paper on the same subject, Mr. Humphreys urged the public need for some numerical test of sanitary condition, and to the increasing use of the death-rate for this purpose he referred much of that growth of public interest in health matters which has been the main-spring of recent sanitary progress. In view of this plea for a numerical test, and of the good that has already resulted from the use of the death-rate for this purpose, the inexpediency of its surrender was pointed out, except under one of two conditions: unless its use can be proved to be absolutely mischievous, or unless a better numerical test could be provided in its place. As the result of his investigations, Mr. Humphreys considers that death-rates afford a numerical test of health condition sufficiently approximative and trustworthy to be useful, in the future as they have been in the past, as a stimulant of the public interest in health progress.

In a paper entitled a Plea for Homes and Hospitals for Incurable and Chronic Diseases, with special reference to the Midland Counties Home for Incurables at Leamington, Dr. J. Lancaster Ranking briefly reviewed the development of hospitals, and the provision which has been made throughout the length and breadth of the land for hospitals for special diseases, and classes of disease, and for convalescents; but remarked that homes and hospitals for incurable and chronic diseases are few, and insufficient for the wants of the community.

In discussing the best method of dealing with the products of combustion, Captain Douglas Galton stated that if we are ever to obtain an atmosphere free from smoke over the vast aggregation of buildings of which our towns are now composed, we can only do so by abandoning the crude method of burning coal in the manner of our early ancestors, and we must resort to the more scientific method of using gaseous fuel.

Surgeon-Major George A. Hutton, in a paper entitled Facts and Figures connected with "First Aid," and the Carriage of Sick and Injured Persons, said that although he looked on this question as affecting everyone—prince, peer, and peasant alike—for all are subject to accident, yet largely and in the main he considered it a working-man's question. He asserted that ambulance work would largely promote kindly, good, and reciprocal feeling amongst all classes, especially employers and their workmen, and he therefore claimed for it national recognition.

MR. SIMON ON JOHN NETTEN RADCLIFFE.

[THE following notes on the late Mr. Radcliffe were most kindly sent us for use anonymously, and not for independent publication. But they are so precious that we have, after some amicable contention, prevailed on their author to allow them to appear under his name, and that in the informal and epistolary style in which they reached us—too late for use last week. Even without the initials, the authorship could not be concealed. Apart from their value as an eloquent testimony to Radcliffe from the one man who is conspicuously able to give it, the notes have so much interest in regard to sanitary legislation, work, and literature, that we feel very grateful to the author for allowing us to publish them just as they stand. Mr. Simon, as may be inferred, writes away from books and the opportunities of reference, but we may safely trust his memory for the accuracy of the chief dates and facts, as we may his judgment on the merits of one of the best public servants the State has ever had, who has died all too soon either for its interests or his own.—ED. L.]

"First of all (for certainly here I need make no reference) let me say what very warm regard and admiration I had for him. Certain quite superficial peculiarities which he had—on the one hand, a somewhat unpunctuated or unaccentuated mode of speech, and, on the other hand, a somewhat frequent preference for semi-sarcastic (though never ill-natured) forms of expression—may sometimes have hidden from casual observers particular features of his real character; but I think it may truly be said of him that he grew in the respect and affection of his friends in proportion to the duration and familiarity of their knowledge of him. Thoroughly kind-hearted (indeed soft-hearted) towards his fellow-creatures, always generous of help and sympathy, very susceptible of personal attachment, and very staunch in retaining it, he always seemed to me to be equally characterised by the straightforward truthfulness and loyalty of a remarkably simple and honest nature. His intellect was of a typically English sort, and in that sort seemed to me one of the ablest I knew. I need not tell you that it was eminently practical. Whatever book-learning he had, or whatever imagination, or whatever abstract philosophy, one never saw any separate flourish of any of them; one saw, when he was at duty, a workman of rare vigour, thoroughly intent on what he had to do, and pursuing that object with inflexible perseverance; but of personal flourish, never a trace. When he had to investigate, he investigated with such dogged constancy and such absolute regard for truth as I have never seen surpassed; and when he had to advise, his advice was characterised in the same eminent degree by its wise regard to practicality. Widely experienced in everyday life, and highly vigilant in observation, he was, above all, greatly gifted with common sense, and his abundant technical knowledge was always under the control and guidance of that Anglo-Saxon form of genius.

"From nearly twenty years ago he has been well known, not only to me, but, I should suppose, to our profession at large,

as one of the ablest of the small staff of men who were then beginning to head the progress of State Medicine in this country; and illustrations of the admirable quality of his work are to be found in the successive annual Reports of the Medical Department of the Privy Council, and, after 1871, of the Medical Department of the Local Government Board. Among reports which he made on the subject of particular local outbreaks of disease investigated by him there are especially three which I count classical. 1. The Report on the very remarkable Outbreak of Cholera at Theydon-Bois, near Epping, in 1865. 2. The Report on the East London Cholera Epidemic of 1866, and its relation to the use of the East London Company's Supply of Water. 3. The Report on the terrible Epidemic of Enteric Fever which prevailed in and about Marylebone in 1873, in consequence of a Dairy Company's Distribution of Infected Milk. These Reports ought to be familiarly known to every officer of health, not only for the tremendous significance of the lessons which they teach, but as examples to be studied and remembered of the minutely cautious and complete way in which local epidemics require to be investigated by anyone who aspires to advise on them. Equally classical in the literature of preventive medicine, though in another direction than the above, are the expositions which he made in matters of epidemiological history, more particularly in 1866 and 1875, with reference to the successive steps by which cholera had advanced from India and had been diffused to various countries of Europe; and in various late years with reference to the diffusions of Levantine plague. His acquaintance with the 'time and place' relations of epidemic and endemic diseases was unusually large and accurate, particularly in respect of cholera and plague, and of the therewith-connected questions of traffic between places and countries. It was, I believe, quite unique; it was like the familiar knowledge which a Charing-cross policeman is supposed to have of the omnibuses which pass his beat; and in the distribution of the work of the Medical Department I used always to look to him as a specialist in that branch of information.

"By the passing of the Sanitary Act of 1866 (which I always consider the best result and reward of my years of official life) both the responsibilities of Local Authorities for the prevention of disease, and likewise the responsibility of the Central Government for looking after them in that duty, were very largely increased; and that being the case, the Medical Department found it must prepare to communicate with the local authorities far more systematically than before on questions of disease-prevention of all sorts. Two branches of this duty, larger and more pressing than perhaps all other branches put together, were the two which related (1) to the prevention of filth-diseases, and (2) to the prevention of the spread of contagion. I need not here attempt to explain at length the policy which I tried to make effective for those and like purposes, but I must mention that at the beginning of 1869 the then new Chancellor of the Exchequer (Mr. Lowe) cordially consented to augment the staff of the Medical Department; that hereupon, for the first time, Buchanan and Radcliffe became permanent officers of the Medical Department; and that from this time they took a more active part with me in what followed—viz., in preparing schemes of detailed information and suggestion for local authorities with reference to local sanitary purposes, such as prevention of filth-nuisances, provision of hospital accommodation for infectiously diseased persons, &c. Much of this sort of work was at first done by them more or less jointly, as especially, in my twelfth Privy Council Report, their studies of the various 'not-watercloset' sorts of privy contrivance which were in successful use in various places. Gradually Radcliffe gave more time to the observation of foreign epidemics, combining with that work the kindred specialism of helping port-authorities to understand their sanitary responsibilities with regard to ship-borne infectious disease. Under the Sanitary Act of 1866, and in accordance with the advice I had given in my Report of that year, we had done all we could to develop, instead of the obsolete quarantine system of the country, a system of dealing with infectious arrivals at ports in substantially the same way as inland infections were to be dealt with—i.e., by hospital isolation under the auspices of the local sanitary authority; and cholera only be dealt with on like principles with small-pox or typhus. Many of Radcliffe's local reports or memoranda on cases of that sort were highly interesting, but I have not at hand the means of particularising any.

"In 1874, when I codified in a Report to the Local Government Board all that I had to say on the subject of filth-diseases, I gave as an appendix to my own paper a thoroughly worked new study by him of the prevention of excremental nuisances—a most valuable second casting of the studies of 1869. And it seems to me that here again is a report of his which every officer of health in the country ought to know with the most exact familiarity.

"In 1875, when, as you may remember, there had been considerable cholera-alarms in Europe for the last year or two, and when an International Conference on Cholera had been held at Vienna, I found it desirable to re-examine our scientific standpoint in relation to the opinions of other countries; and the occasion was also taken for Radcliffe to extend his cholera paper of 1866 into a report for the whole decennial period. For the guidance of European opinion on the question of Red Sea quarantine, and other such questions, the mass of evidence given in that report with regard to the many ways by which cholera, so often as it grows in India, tends to reach Europe, is, in my opinion, the most instructive document in existence; and the man who can resist that kind of evidence must be either an idiot or a quarantine *employé*. To the ordinary medical reader it might be too laborious to study the paper, but as a *pièce de résistance* for the English Government when it has to confer with other Governments about their quarantine proposals the report is simply invaluable, and worth even the immense labour which Radcliffe bestowed on its compilation.

"As for poor Radcliffe's actual death, under the conditions which had so grievously come to him, of course it would be absurd to express regret. The moment for regret—and to me the regret was indeed extreme—was when I saw, now two years ago, that the strength, and usefulness, and happiness of his life had gone from him. I suppose that the disease to which he eventually succumbed must have been creeping on him from a much earlier period, and that it accounted for the degree to which, in years after my withdrawal from office, he developed in his way of work a certain slowness which, in its moderate degrees, I had previously noticed in him as peculiar. In regard of that question of rate of work, Radcliffe had from old been a psychological curiosity: for while undoubtedly he was capable of what in so industrious a worker seemed a quite extraordinary slowness of work, and this even at times when he was in his best health, he could be of equally extraordinary swiftness in cases where swiftness was evidently essential. Where, for instance, there was necessity to judge off-hand on the advice to be given to a local authority in an emergency or a panic, his opinion was formed and expressed with an almost military promptitude; and I do not remember that any such prompt judgment of his ever seemed to me mistaken. In what he considered his provisional judgment on the broad facts of cases, he never loitered, but yet never seemed to go wrong; and the slowness which, even in my days there, used to be proverbial, attached entirely to the extraordinary zeal which possessed him to give a finish of absolute certainty (in matters of fact) to passages which in general were of quite subordinate significance. Even on occasions when I was obliged to wish he could more easily satisfy his extremely fastidious self-criticism in matters of that sort, I could not but immensely respect the scrupulous regard for truth which was at the root of it. Noble steadfastness of work, abhorrence of incomplete testimony, and in general a loathing for pretentious and scamped work, were characteristic of him; and no doubt he strove to work up to his own high standards of accuracy and completeness long after he had begun to feel (through ill-health) more and more difficulty in the endeavour. I suspect, too, that the later circumstances of the office, allowing him to give more and more time to documentary compilations, and drawing him out less and less into the practical work in which he was so eminently qualified to excel, was probably unfortunate for his health. The public service, owing to the changes in the office, derived from his great qualities far less good than it might have got, and has lost in him (not by this last removal, but by the long incapacitation which led to it) such a man as it will hardly replace.

"Folkestone, Sept. 16th, 1884." "J. S.

PRESENTATION.—Dr. C. T. Ewart has, upon his resignation of the post of resident medical officer at the Fisherton House Asylum, Salisbury, been presented by the attendants, nurses, and inmates of that institution with an escritoire and inkstand.

THE BENEVOLENT FUND OF THE BRITISH DENTAL ASSOCIATION.

IN the report of the annual meeting of the British Dental Association at Edinburgh, which appeared in our issue of Sept. 6th, pressure on our space compelled us to omit the first annual report of the above Benevolent Fund, which was inaugurated last year at Plymouth. The managing committee, through its chairman, Mr. John Tomes, reported that the fund was originally intended to be applied only to the relief of necessitous members of the Association, their widows and orphans; but, several most urgent cases having arisen during the year, it became necessary to extend the field of usefulness, and the rules as now amended permit of help being given to any deserving cases of necessity, with the sole proviso that the recipients must be registered dentists or the widows or orphans of such, strict inquiry being made. The treasurer (Mr. A. J. Woodhouse) reported that the donations and subscriptions promised and received amounted to £848 18s., and that relief had been administered to the extent of about £120 in eight cases in all. Sir Edwin Saunders, one of the trustees, said that £530 had been invested in Consols, and the vice-chairman, Mr. Dennant, explained that the committee had no intention of pauperising those aided, but of relieving "the distress of the widow, the helplessness of the orphan, and the dire misfortune of sudden calamity overtaking a professional brother." Their desire was to help the widows to earn their own living, and to find homes and education for the orphans. Mr. S. J. Hutchinson, who acted as honorary secretary (in the absence of Mr. Oakley Coles), stated that a local committee for Scotland had been formed by the Scottish Branch at this meeting, and that in the two dental schools in London, and in that of Edinburgh, it was proposed to establish free scholarships in the event of any of the pupils now being educated at the cost of the fund, deserving free education at any of these hospitals, which would most likely be granted by the medical staff of every dental school in the kingdom.

REPORTS OF THE STATE BOARD OF HEALTH OF NEW YORK.

A VALUABLE series of special reports has been issued by the State Board of Health of New York, each report dealing with some one special subject, and being complete in itself; and in this respect they very much resemble the reports of the inspectors of the Medical Department of the Local Government Board in this country. But they are by no means confined to medical subjects; one, for example, gives an exhaustive account on the drainage of the Tonawanda and Oak Orchard Swamps, and another deals with the system of sewerage for the village of Peekskill, and these latter might justly form a type of the species of report which, in our opinion, should issue from the engineering department connected with our Central Sanitary Board. From the diagrams attached to some of the reports, we observe that through-ventilation of house-drains is strongly advocated, but the arrangement of openings by which it is effected differs from that suggested in the annotated model bye-laws in use here, for the two openings are much on the same level, both being secured by means of pipes carried to the top of the house. A more certain way of ensuring a through current of fresh air would be to have the inlet opening nearest to the house side of the drain-trap on the ground level, the more distant one, or the outlet one, alone being carried above the house. So also, the sewer itself is ventilated by means of a pipe carried up above the house. Whatever advantages attach to this system, it could not be enforced here under the Public Health Act, which limits any regulations as to ventilation &c. to house drains, the public sewers not being included.

THE PROPOSED NEWBURY DISTRICT HOSPITAL. At a meeting of the general committee held last week, it was decided to obtain plans for a hospital of eight beds, allowing 1200 cubic feet for each patient, with provision for an extension to twelve beds.

THE CHOLERA EPIDEMIC.

CHOLERA still clings with much tenacity to Naples and to Spezia, both of them towns where the sanitary circumstances are eminently favourable to the extension of a disease which finds its principal means of diffusion in conditions of excremental pollution. At Naples the diminution in the fatality, which commenced some ten days ago, is still steadily in progress, the more recent records showing that about 150 deaths take place daily. In Spezia the severity of the epidemic is liable to considerable fluctuations. Thus, on the 18th inst. the deaths were nine in number, next day they rose to thirty, now again they are reduced to seven and nine a day. In the other parts of Italy previously infected no material outburst has taken place, but the diffusion of the disease in the province of Naples is considerable, and a fresh province—namely, that of Ascoli, is now reported as infected. At Rome another case has occurred, but it may be hoped that the means of isolation and other measures available will prevent any extension of the disease. In France the epidemic is more quiescent; a few deaths occur almost daily in Toulon and Marseilles, and at Perpignan, where the largest mortality is now maintained, five deaths a day are not unusual. As regards Spain, the contradictory statements as to whether cholera is really prevalent or not are still maintained, but it is quite certain that the Government feel no hesitation upon the point, for they daily record the cholera deaths in the province of Alicante, and now also in that of Tarragona, and they maintain by means of the troops a sanitary cordon round the places that are infected. The extension of the disease into the province of Tarragona has taken place notwithstanding the cordon. On the subject of land quarantines it is noteworthy that Dr. Proust, the chief French sanitary inspector, has reported that the extensions of cholera which have taken place, both into Italy and Spain, of themselves suffice to show that quarantines in populous districts are not only useless but that they become centres from which the disease diffuses itself. He now advocates, in the place of these effete measures, the rigorous enforcement of measures of public health, coupled with proper medical inspection at certain centres along the principal lines of human traffic.

QUARANTINE AND INFECTED PORTS.

At Gibraltar quarantine on vessels arriving from Italy is extended from seven to fourteen days, and all vessels arriving from Indian ports are subjected to twenty-four hours' quarantine. All arrivals from Spanish ports are subjected to a quarantine of fourteen days, and all arrivals from the Mediterranean ports of Spain are ordered to quit Gibraltar.

Vessels from Naples are subjected to ten days' quarantine in the rest of the continental littoral of Italy.

Quarantine at the frontier of Italy, in the provinces of Turin, Cuneo, and Port Maurizio is abolished.

In Greece vessels from Tunis are subjected to a quarantine of five days' observation.

Vessels arriving from Spanish ports are refused admittance in ports of Morocco. The same regulation is still maintained as regards vessels arriving from France, Italy, and Algeria.

From Nice it is reported that the quarantine at the Var for passengers arriving at that town from the East has been abolished.

At Malta passengers coming from England are to make, before embarking, a statutory declaration that they have not been during twenty-one days immediately preceding their departure from England in any district on the Continent infected by cholera. This declaration must be produced on arrival at Malta, otherwise passengers will not be allowed to land and the vessel will be kept in quarantine. The infected districts are Italy, Spain, and France south of Lyons. Arrivals from French and Spanish ports in the Atlantic will be subjected to twenty-one days' quarantine. Arrivals from ports beyond the Suez Canal are admitted to pratique, provided no passengers or merchandise have been shipped at any ports in Egypt, in the Red Sea, or the Mediterranean.

At Pernambuco vessels arriving from Europe are subjected to quarantine ranging in length from twenty-four hours to ten days.

At Odessa and other Black Sea and Sea of Azoff ports,

quarantine of fourteen days is imposed on vessels arriving from Gibraltar. The quarantine in Algeria on arrivals from France has been reduced from seven to five full days.

At Constantinople ten days' quarantine has been applied to arrivals from the Spanish Mediterranean shore, in the same manner as to arrivals from France and Italy. Arrivals from Tunis have to perform five days' quarantine at Turkish ports.

WILLS OF MEDICAL MEN.

THE will of William Parker, M.D., formerly of 25, Palmeira-square, Hove, Sussex, but late of 37, Pulteney-street, Bath, who died on July 13th last, was proved on the 22nd ult. by Mrs. Eleanor Parker, the widow, one of the executors, the value of the personal estate exceeding £4400. The testator gives, devises, and bequeaths all his real and personal estate to his wife absolutely.

The will and codicil of Job Lockyer Seale, M.D., late of Ashton House, Steeple Ashton, Wilts, who died on July 17th last, were proved on the 3rd inst. by the Rev. Frederick Samuel Seale, the son, one of the executors, the value of the personal estate being over £4300. The testator bequeaths certain household furniture and effects, and an annuity of £130 for life or widowhood, to his wife Mrs. Marianne Seale; and remainder of his furniture and effects to his said son. The residue of his property is to be divided between his son's children.

The will of Mr. Frederick William Harris, retired Surgeon-Major Bombay Army, formerly of Leigh Lodge, Leigh, Worcestershire, but late of Buckingham Lodge, Vansittart-road, Torquay, who died on the 7th ult., was proved on the 1st inst. by Mrs. Kate Harris, the widow and sole executrix, the value of the personal estate exceeding £2300. The testator gives, devises, and bequeaths all his real and personal estate to his wife for her own absolute use and benefit.

The will of Donald Cochrane Campbell, M.D., late of Warley, Essex, who died on the 8th ult., was proved on the 10th inst. by Mr. James William Copland, the acting executor, the value of the personal estate exceeding £2500. The testator bequeaths £100 and all his effects, horses and carriages, to his wife, Mrs. Jessie Euphemia Campbell. The residue of his real and personal estate is to be held upon trust for his wife for life and then for his children.

The will of Mr. Thomas Wallis McDonald, Inspector General of Hospitals, R.N., late of Teignmouth, Devon, who died on April 1st last, was proved at the Exeter district registry, on the 28th ult., by Mrs. Louisa McDonald, the widow and sole executrix, to whom he devises and bequeaths all his real and personal estate. The personal estate exceeds £580.

The following legacies have recently been left to hospitals and other medical institutions:—Mr. Edwin Cox, late of 11, Rochester-terrace, Kentish-town, £500 each to the Royal Free Hospital, the City of London Truss Society, the Hospital for Consumption and Diseases of the Chest at Brompton, the Cancer Hospital, Middlesex Hospital, Westminster Hospital, Charing-cross Hospital, and St. Mary's Hospital.—Mrs. Rebecca Gray, widow of John Charles Gray, late of the Strand and of Windsor, Berks, £1000 to the Charing-cross Hospital.—Mr. William James Patterson, late of Carlton-crescent, Southampton, £1000 to the Royal South Hants Infirmary; £5000 to the executive body of the same Infirmary to be called "the Patterson Chaplain Fund," the income to be appropriated as a stipend for a chaplain, who is to be a member of the established Episcopal Church of England, and a graduate of one of the universities of Oxford or Cambridge; £500 to the Southampton Dispensary and Humane Institution; £250 each to the Royal Hospital for Incurables, Putney, and the National Hospital for the Paralysed and Epileptic, Queen-square, Bloomsbury, and £150 each to St. Mary's Cottage Hospital, Southampton, and the Sanatorium, Bournemouth.—Mr. J. J. Crosthwaite, £300 to St. Michael's Hospital, £100 to the Children's Hospital, and £100 to the Hospital for Incurables.—The late Mr. John Walker (Preston), £2000 to the Preston Infirmary.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

Sanitary State of Gateshead, by Dr. BARRY.[1]—A voluminous report has been issued by Dr. Barry on the sanitary state of the borough of Gateshead, and on the prevalence of infectious diseases in the district. After describing the district generally, as also from a topographical and geological point of view, Dr. Barry enters into details as to the streets and dwellings. Some description of the state of Gateshead, as given by the commissioners who reported on cholera there in 1854, shows that at that date the poorer parts of the town were built back-to-back, or that the back yards between them were so small that they served for little else than the reception of accumulations of filth, that the narrow streets were habitually dark, damp, and unwholesome, and that they often constituted culs-de-sac; or that narrow courts and entries were made to abut on undrained banks of a clayey soil. To all this was added what so usually follows on house accommodation of this sort—namely, overcrowding, filthy habits, and disease. Alterations and improvements have been made since that date, but it is still possible to report that there are districts where somewhat similar defects of house arrangements exist, the insanitary conditions being aggravated by the number and the size of the filth receptacles in the yards. A large number of houses are divided off into what we call tenement houses, and these are at times situated around unpaved or badly paved yards, into which slops are apparently thrown quite regardless of the position of the slop-sink, and consequently the ground is habitually sodden with filth. What is especially needed in Gateshead is action under the Artisans and Labourers' Dwellings Acts of 1875 to 1882, and the enforcement of proper bye-laws as to tenement houses under Section 90 of the Public Health Act, 1875. The details given by Dr. Barry as to individual tenements are worthy of the notice of the Royal Commission on the Dwellings of the Poor. Thus of Riley's house it is said:—"Single room, ground floor; capacity, 1720 cubic feet; six inmates, 286 cubic feet per head; condition, filthy and wretched in the extreme; typhus prevalent. The room above inhabited by another family, no furniture except a broken chair and a small straw heap in one corner covered with a ragged quilt; typhus also." As regards Murray's-yard a long description is given, and of the second storey it is explained that it is let off into two-roomed and one-roomed tenements; the third floor is similar, and the excrement and filth of the families in the upper rooms are kept in buckets in cupboards till full, and then emptied into the midden. Several cases of typhus prevailed here in 1882. The general arrangements for the disposal of excrement and refuse are unsatisfactory as regards the poorer classes, and the bye-laws relating to this subject are, as so often is the case, such as to maintain and perpetuate the evils which need remedy. Thus, instead of limiting the capacity of ashpits and middens by some maximum size which none shall exceed, the bye-law as to this says that they shall not be *less* than a specified size, the result being that huge receptacles for filth can be constructed in the midst of human dwellings. The conditions of the sewers and water-supply are next entered into in much detail, and then follows an elaborate account of the mortality statistics. The population is estimated at 69,620 in 1883, the mean mortality for the ten years ending 1880 amounts to 26·1 per 1000, as opposed to 24·0 and 21·4 for the twenty large towns, and for England as a whole, respectively, and the excess is shown to have been mainly due to the epidemic prevalence of one or other of the infectious fevers; small-pox, scarlatina, "fever," and also diarrhœa having largely contributed to it. All this is clearly set out in a series of tables; and then reference is made to certain recent prevalences of typhus and small-pox, which were the immediate causes of the inquiry which has been

[1] To be purchased of Knight and Co., 90, Fleet-street; Shaw and Sons, Fetter-lane; Haddon, Best, and Co., West Harding-street; and P. S. King and Son, King-street, Westminster.

instituted. As regards the small-pox, it is worthy of note that whilst the actual number of cases of small-pox was larger in the districts where there was overcrowding and bad house accommodation, yet the proportion of fatal cases to persons attacked was highest amongst the well-to-do; and Dr. Barry is inclined to attribute this difference, to some extent, to the fact that whilst in the poorer parts of the town the vaccination is almost exclusively performed by the public vaccinator, whose work is unexceptionable in quality, in the better-class districts the vaccination is almost entirely performed by the private medical man, in which case regret is expressed that it was frequently of a very imperfect character. This same condition has, in one of Dr. Buchanan's recent reports, been also referred to in connexion with vaccination in the metropolis. The mean age of persons attacked with small-pox in Gateshead was 19·4 years amongst the vaccinated and 8·9 years amongst the unvaccinated, by far the greater proportion of attacks amongst the latter class being in children under five years, whereas amongst the vaccinated no case occurred under one year, and no appreciable prevalence occurred until ten years were reached. The report next goes into a lengthened description of the hospital provision available, pointing to some serious defects which were associated with the early history of the infectious buildings. The report is further illustrated by a series of lithographs, showing the arrangement of houses, &c., and it may be taken as a type of a complete report on the general sanitary circumstances and administration of a large and populous borough. A series of recommendations, suggesting the sort of action which is needed in the future, is appended to it.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

During the week ending the 20th inst., 5732 births and 3518 deaths were registered in twenty-eight of the largest English towns. The annual rate of mortality in these towns, which had declined in the four preceding weeks from 25·6 to 21·4 per 1000, further fell last week to 21·0. During the first twelve weeks of the current quarter the death-rate in these towns averaged 23·1 per 1000, against 20·6 and 20·0 in the corresponding periods of 1882 and 1883. The lowest rates last week in these towns were 14·9 in Portsmouth, 16·6 in Brighton, 17·1 in London, and 17·2 in Birkenhead. The rates ranged upwards in the other towns to 28·3 in Blackburn, 28·3 in Preston, 28·8 in Salford, and 29·9 in Leicester. The deaths referred to the principal zymotic diseases in the twenty-eight towns, which had declined in the four previous weeks from 1314 to 802, further fell last week to 715; these included 413 from diarrhœal diseases, 91 from "fever" (principally enteric), 82 from scarlet fever, 52 from whooping-cough, 41 from measles, 29 from diphtheria, and 7 from small-pox. These diseases caused the lowest death-rates in Plymouth, Halifax, and Portsmouth, and the highest in Sheffield, Sunderland, and Hull. The highest rates of mortality from diarrhœa were recorded in Sunderland, Hull, and Leicester; from scarlet fever in Sheffield and Cardiff; from measles in Birkenhead and Bolton; and from "fever in Preston, Hull, and Sunderland. The 29 deaths from diphtheria in the twenty-eight towns included 21 in London and 3 in Liverpool. Small-pox caused 6 deaths in London and 1 in Sheffield. The number of small-pox patients in the metropolitan asylum hospitals situated in and around London, which had steadily declined in the ten preceding weeks from 1368 to 477, further fell to 471 on Saturday last; the new cases admitted were 65, against 77 and 66 in the two previous weeks. The Highgate Small-pox Hospital contained 26 patients on Saturday last, one new case having been admitted during the week. The deaths referred to diseases of the respiratory organs in London, which had been 167 and 170 in the two preceding weeks, declined last week to 159, and were 51 below the average. The causes of 84, or 2·4 per cent., of the 3518 deaths in the twenty-eight towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Wolverhampton, Leicester, and in four smaller towns. The largest proportions of uncertified deaths were recorded in Huddersfield, Leeds, Sunderland, and Oldham.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which in the two preceding weeks had been 20·5 and 21·5 per 1000, declined to 20·8 in the week ending the 20th inst., and was slightly below the mean rate during the same period in the twenty-eight large English towns. In the Scotch towns the rates last week ranged from 11·8 and 12·2 in Perth and Greenock to 25·6 in Glasgow and 24·1 in Paisley. The 503 deaths in the Scotch towns included 51 which were referred to diarrhœal diseases, 23 to whooping-cough, 20 to diphtheria, 15 to "fever," 14 to scarlet fever, 7 to measles, and not one to small-pox; in all, 130 deaths resulted from these principal zymotic diseases, against 127 and 118 in the two preceding weeks. These 130 deaths were equal to an annual rate of 5·4 per 1000, which was 1·1 above the average rate from the same diseases last week in the twenty-eight English towns. The fatal cases of diarrhœa, which had been 55 in each of the two preceding weeks, declined to 51, and included 24 in Glasgow and 12 in Dundee. The 23 deaths from whooping-cough showed a slight increase upon recent weekly numbers; 10 occurred in Glasgow, 4 in Edinburgh, 4 in Dundee, and 4 in Aberdeen. The 20 fatal cases of diphtheria showed a considerable increase, and included 11 in Glasgow and 4 in Dundee. The deaths from "fever," which had been 9 and 10 in the two previous weeks, further rose to 15 last week, of which 12 were returned in Glasgow. The 14 fatal cases of fever included 11 in Glasgow, where 5 of the 7 deaths from measles were also recorded. The deaths referred to acute diseases of the respiratory organs in the eight Scotch towns showed a decline of 10 from the number in the preceding week, and were considerably below those returned in the corresponding week of last year. The causes of 78, or nearly 16 per cent., of the deaths in the eight Scotch towns last week were not certified.

HEALTH OF DUBLIN.

The rate of mortality in Dublin, which had been 29·3 and 29·4 per 1000 in the two preceding weeks, declined to 26·6 in the week ending the 20th inst. During the first twelve weeks of the current quarter the death-rate in the city averaged 25·0 per 1000, the rate during the same period being 21·3 in London and 16·8 in Edinburgh. The 179 deaths in Dublin last week showed a decline of 19 from the number in the previous week, and included 32 which were referred to the principal zymotic diseases, against 42 in each of the two preceding weeks; of these, 21 resulted from diarrhœal diseases, 5 from scarlet fever, 4 from whooping-cough, 1 from diphtheria, 1 from "fever," and not one either from small-pox or measles. These 32 deaths were equal to an annual rate of 4·8 per 1000, the rate from the same diseases being 2·7 in London and 4·0 in Edinburgh. The fatal cases of diarrhœa, which had declined in the three previous weeks from 48 to 24, further fell last week to 21. The deaths from scarlet fever, which had been 7 and 11 in the two preceding weeks, declined to 5 last week. The 4 fatal cases of whooping-cough exceeded by 3 the number in the previous week, while those of "fever" showed a decline. Three inquest cases and 4 deaths from violence were registered in the city during the week, and 39 deaths occurred in public institutions. The deaths of infants showed a marked increase, while those of elderly persons were considerably below those recorded in recent weeks. The causes of 47, or more than 26 per cent., of the deaths registered during the week were not certified.

THE SERVICES.

ARMY MEDICAL DEPARTMENT.—Deputy Surgeon-General Thomas John Murphy, M.D., is granted retired pay, with the honorary rank of Surgeon-General; Brigade-Surgeon Fitzgerald Edward Scanlan is granted retired pay, with the honorary rank of Deputy Surgeon-General; Surgeon-Major James d'Altera is granted retired pay, with the honorary rank of Brigade Surgeon; Brigade Surgeon George Faught to be Deputy Surgeon-General, vice Francis Holton, M.B., retired upon temporary half-pay; Surgeon Patrick Joseph Gallwey, M.D., has resigned his commission.

ADMIRALTY.—Fleet Surgeon Alexander McDonald, M.D., has been placed on the retired list of his rank.

The following appointments have been made:—Staff Sur-

geon Bernard Renshaw, to the *Boscawen*; Surgeon Herbert E. Marsh, to the *Alexandra*, additional; Surgeon John Brunt, to the Royal Marine Artillery at Eastney; Surgeon John J. O'Doherty to be Surgeon and Agent at Cushenden and Cushendall.

RIFLE VOLUNTEERS.—3 d Hampshire: Surgeon and Honorary Surgeon-Major John Robert Kealy, M.D., resigns his commission; is also permitted to retain his rank, and to continue to wear the uniform of the corps on his retirement. —1st Suffolk: Pryce Jones Langford Morris, Gent., to be Acting Surgeon.

Correspondence.

"Audi alteram partem."

THE ALLEGED CAUSE OF CHOLERA.

To the Editor of THE LANCET.

SIR,—There is a subtle danger involved in the assumption of some hypothesis or doctrine at the outset of an inquiry, on account of the influence which it insensibly exerts in systematising the facts so as to harmonise with the assumption. The impressions derived by those who have an opportunity of registering and considering all the facts connected with the progress of an epidemic, and of comparing one epidemic with another, are necessarily different from those of a local, a clinical, or a pathological observer. It is quite true that the investigations of the latter are more likely to be accurate, because their restricted nature allows of their being inductively and exhaustively made. In speaking of the need for the exercise of caution before concluding that cholera infection through the medium of a specifically contaminated water-supply had yet been demonstrated, it is scarcely necessary to add that no sane man doubts the great importance of a pure water-supply. Of course, if there be a specific germ or cause it will probably be present in water, but it is, and must be, very difficult to prove it, for a population exposed to the risk of drinking dirty water is commonly living under all the other conditions rendering it susceptible to epidemic disease. Practically, life assurance offices are little, if at all, affected by cholera risks, the classes who effect life assurances not being usually those who reside in cholera localities. Have we, in reality, any evidence to show that the use of an impure water would prove more injurious than the use of some saline purgative during the prevalence of cholera? In studying cholera, it should be borne in mind that so-called sporadic cases, an outbreak of limited extent, cholera on shipboard, in a regiment on the march, and an epidemic, whilst so many separate manifestations of one and the same disease, are otherwise distinct things, each having its own history and significance. On all these points I know of no work except Bryden's which gives any foothold of facts; and it was probably due to his intimate acquaintance with these that he was so often enabled, as he certainly was, to make his forecasts of events.

In the Bengal Presidency it frequently happens that, west of the eightieth degree of east longitude, individual cases of cholera in the last quarter of the year precede the appearance of the disease in the following spring; and a bad cholera in spring is often, as a matter of experience, found to be followed by a worse one during the monsoon; but it does not at all follow that the outbreaks should subsequently occur at the same stations as those in which the individual cases had appeared. In 1875 cases of cholera occurred almost simultaneously at the hill stations of Dharmsala, Simla, and Kasauli, and at the same time as in the Deccan and the Berars. The percentage of villages or stations attacked in a given epidemic area is relatively small; attempts to prove that cholera has, as an epidemic, radiated from any given outbreak as a common centre have failed, and it is a matter of observation that it does not retrograde. In other words, it does not proceed at all equally in all directions, neither does it happen that a place or district which has been heavily visited one season suffers disproportionately the next; on the contrary, it generally escapes. Of course, several reasons might be assigned for this, that by Pettenkofer, for example.

In the second Afghan War (1879), while the cholera may be said to have ceased in India in September, it was still prevailing beyond the Indus, in the Khyber and Kurram routes, even up to October, having penetrated as far as Cabul itself in the preceding July. The troops returning from Afghanistan to India in the first week of June actually marched into the cholera, which was advancing to the north. The heat was terrible (110° to 115° F. in the shade), and their sufferings and exhaustion great from this and dust storms. Their losses from cholera were severe, and the disease in at least one of the corps did not disappear for some time, in spite of frequent changes of camps and water-supply. I never heard that this body of troops lighted up an epidemic or an outbreak in the stations through which they passed, which they would certainly have had the credit of having done had they been going in the opposite direction—viz., to Cabul, instead of to India.

The experience at Meean Meer, in the summer of 1881, was interesting in indicating the effect of locality; for the troops were moved out from that station in consequence of cholera amongst them, lost it after a few days, returned, were again affected, and went into camp the second time with a similarly successful result. What cholera has done before it will commonly do again, and once the disease has appeared in Lahore and Meean Meer as part of an epidemic, it may be expected to continue from time to time up to the end of September.

That there should be certain localities which resist the development of cholera in spite of the frequency and the extent of their communications is sufficient to indicate that the transmissibility of that disease is subordinated to some complex influences. The Hurdwar pilgrims carried cholera with them into Mooltan in 1867, and as Mooltan had become a great railway terminus, it was alleged that its immunity from cholera —an immunity lasting over half a century—would be destroyed. But from 1868 to 1875, out of a population exceeding a million in Mooltan, Mozuffargarh and Dera Ghazi Khan, the districts tapped by railway communications, only seventeen deaths from cholera were registered, notwithstanding that the Punjab had suffered from no less than three epidemics during that interval. And I believe that, to come nearer home, Lyons in France, and Birmingham in England, have manifested a similar insusceptibility.

The cholera of 1883 in Egypt began at Damietta, and advanced in a pretty straight line to Cairo in the direction of the prevailing wind, all the places attacked having severally gone through much the same series of phenomena in pretty nearly the same period of time. It did not retrograde, neither did it spread to Europe, although opportunities for its doing so were not wanting. From the same facts different inferences were drawn by different observers: one set holding that it spread along the line of human intercourse, and, directly or indirectly, by it; the other, that as cholera can only manifest itself in the human organism, that is exactly what it should be expected to have done, if human beings are the reagent rendering the presence of cholera manifest. It may be true, of course, that some cholera germ or virus multiplies enormously in the human body, and is disseminated by it. It is quite right that cholera should be studied like any branch of natural history or micro-parasitic pathology; but it seems necessary to assume the existence of bacillus germs or resting-spores, capable of movement by the wind and of resistance to heat, to explain all the phenomena. There may, however, be another aspect of the question. The cause of cholera may be attributable to a condition or quality of matter rather than to matter itself; and it would be easy though unprofitable to cite in illustration the action of magnetism on iron, or what is known as catalysis. We know the influence of locality in which cholera is present, and, for all we know, human beings may (if the apparent paradox be pardoned) represent so many pieces of the locality in movement. Such individuals may sicken and die of the disease and impart it to others, but seemingly with relatively slight results unless they happen to be travelling in the direction and at the rate at which some unknown epidemic influence is itself going. I hold that it would be a matter of prudence, at any rate, to divert the course of a cholera-stricken crowd of people from occupied towns and villages. The fact of there being an appreciable interval between the exposure of an individual and his attack (incubation?) is, however, to my mind evidence that the cause is a material one—possibly a vital agent.

We next come to the *Crocodile*, which left Bombay early

in April of the present year. It had cases of cholera on board, but no fresh admission for that disease took place after the 20th of April. The affected men had all come from India. The affected and non-affected drank the same water, and the men of the Army Hospital Corps who were embarked from Malta to attend on the sick did not take the disease. All the passengers and their baggage were disembarked in this country and scattered to their several destinations without any alleged introduction or appearance of cholera anywhere, so far as I am aware.

There is no need to enter into the subsequent events at Toulon and Marseilles. It is possible that some fresh light may be thrown on the history of those events, but, so far as I can ascertain, there are several facts that cannot be reconciled with the assumption that the *Sarthe* introduced the disease into Toulon; and even if she did, it is not easy to see, considering the long interval that had elapsed between the date of the cholera cases on board and the occurrence of those at Toulon, how any practicable quarantine measures could have prevented it. Later accounts state that at Marseilles some fatal cases of malignant cholera occurred last year, and some persons had been attacked this year before the first case at Toulon was reported.

There is one point which requires observation, and that is the frequency with which the inmates of hospitals are first attacked at a station, for this is a fact that arrested the attention of the present Director-General and myself whilst we were in India. The patients were under treatment for ordinary diseases, and had not been admitted for diarrhœa. Possibly the continuous occupation of the wards of a hospital, as compared with other buildings, may afford an explanation. When cholera is present as an epidemic, people may be said to be in a state of unstable equilibrium, and in the case of attendants on the cholera sick I should expect that the depression arising from confinement in a hospital, and the loss of exercise and of sleep, would have an injurious influence.

The 1884 epidemic in Europe is, to my mind, but part and parcel of that of 1883 in Egypt, as that was probably part of a movement from India, and, so far, the western limit of the same epidemic is the affected portions of the continent of Europe. Cholera, as a rule, invades the Central Provinces of India from the east. But in 1882 there was no invasion from that quarter; on the contrary, the disease came from the north out of Bengal and passed towards the south-west, rendering it highly probable that the epidemic moved in this direction towards the seaboard of Bombay, in which city the deaths had fallen in 1882 to 169. At the time that cholera appeared in Egypt, however, there was a large increase, for in the three months July, August, and September, when so many died in Egypt, there were 821 cholera deaths in Bombay city. Meantime there have been some cases of so-called *cholera nostras* in this country, which, in their clinical features, were so apparently identical with cholera as seen elsewhere that in an epidemic they would have been unhesitatingly identified with it.

I desired to have added some remarks in regard to the average duration of a typical outbreak of cholera under different circumstances, and as to the measures which should be adopted when cholera is present or threatening, such as are justified or indicated by experience; but to do this would be to extend this communication to interminable length, and I fear the patience of your readers has been already exhausted.

I am, Sir, yours truly,

J. A. MARSTON,
Deputy-Surgeon General, A.M.D.

September, 1884.

THE UNCERTAIN COMPOSITION AND ACTION OF GREY POWDER.

To the Editor of THE LANCET.

SIR,—Grey powder—hydrargyrum cum cretâ—is generally believed to be one of the mildest of the preparations of mercury, and as such it is often prescribed for infants and young children, its composition being supposed to be one part of metallic mercury to two of chalk. For many years I have entirely ceased to prescribe that preparation, and, with your permission, I will briefly state my reasons for discontinuing its employment. When I was in the habit of using it I found its operation to be most uncertain and variable; at one time its action was mild, while at another it caused severe pain, vomiting and purging. My mistrust of it was finally confirmed by a conversation which I had many years ago with Professor Redwood of the Pharmaceutical Society. The professor told me that in consequence of having heard frequent complaints of the uncertain and often violent action of the drug, he had analysed a number of specimens, and the result was that all, or nearly all, were found to contain a variable proportion of the two oxides of mercury. The last number of the *Pharmaceutical Journal* (Sept. 20th, p. 230) contains an interesting report and discussion on the strength and condition of commercial specimens of hydrargyrum cum cretâ and other mercurial preparations. Out of twelve specimens of grey powder analysed, not one was found free from the oxides of mercury. One sample contained as much as 2·2 per cent. of mercurous oxide and 4·67 of mercuric oxide; and another had 6·15 of mercurous oxide with 2·8 of mercuric oxide. The presence of so large a percentage of the oxides of mercury explains the occasional violent action of the drug. The mercuric oxide meeting with hydrochloric acid in the stomach would be at once converted into the poisonous perchloride.

From the discussion which followed the reading of the paper it would appear that the variable proportion of the oxidised mercury depends, not upon the manner in which the ingredients are rubbed together, whether by hand, with a mortar and pestle, or by steam-driven machinery, but upon the length of time during which the drug has been exposed to the air after its preparation; so that, while a freshly prepared specimen might contain no oxidised mercury "in a month," as Mr. Tyrer, a manufacturer, said, "a difference would be perceptible, in three months still more, and so on until a point was reached when the oxidation ended, though what that point was he was not prepared to say."

My object in this communication is to direct the attention of the profession to the uncertain composition and operation of this commonly employed drug, and especially to point to the occasionally distressing results of its administration to young children.

Many years ago, during a consultation with Sir Benjamin Brodie, he asked me how I would treat syphilis in an infant. I replied, "With grey powder;" upon which he said, "And the result would be that you would gripe and purge your patient to death." I am, Sir, yours truly,

Savile-row, Sept. 22nd, 1884. GEORGE JOHNSON.

THE CHOLERA FUNGUS AND SULPHUR TREATMENT.

To the Editor of THE LANCET.

SIR,—At the International Medical Congress, Tommasi Crudeli (Rome), in his paper on Cholera, mentioned that æthiops mineralis had been used in Italy for the treatment of cholera, thus supporting Pacini's view that cholera was dependent on a fungoid organism. I am sure it will interest Dr. Crudeli to know that sulphur was employed in 1847–48 as a remedy in epidemic cholera by Dr. John Grove, the father of the germ theory. Grove published his observations in a pamphlet, entitled "Sulphur as a Remedy in Epidemic Cholera," published by Ridgway. He believed that cholera was caused by a fungus, and in THE LANCET, 1849, pp. 427, 451, are to be found two articles by him, headed "The Vitality of the Cholera Fungi Demonstrated." In the same journal, at p. 428, vol. ii., 1849, are some drawings of this fungus, which Grove believed to be the cause of cholera. They are rudely drawn, and are, I believe, torulæ. There are some comma-shaped bodies which cannot be so classed. Dr. B. Ward Richardson has declared that Grove was the first in modern times to advocate the hypothesis that living germs were the exciting agents of epidemic and infectious diseases.[1] He was evidently in advance of his time. In a letter to me, Nov. 5th, 1881, Dr. Grove wrote: "The only merit that I can claim for my work is that I endeavoured to lay a foundation for more definite ideas as to the nature of morbid agencies on the vegetable as well as the animal kingdoms, and to suggest remedies, as sulphur for cholera, acetic acid for typhoid fever." Pacini's and Koch's observations prove that Grove was on the right track. Some other names deserve to be added to that of Dr. Grove in relation to the fungoid causation of cholera—viz., Dr.

[1] Vide Nature, Oct. 25th, 1880.

Brittan, who condensed the air of rooms in which cholera patients had died, and detected cholera cells, Dr. Swayne, Dr. Cowdel, Dr. Mitchell (Philadelphia), and Dr. Budd. It would save much discussion as to priority if you would republish the following abstract of Budd's paper, which appeared in THE LANCET, in 1849, vol ii., p. 271. Many of his suggestions stand good at the present time.

Abstract of Dr. Budd's Paper.

"An announcement was lately made by Mr. Brittan of the discovery that peculiar microscopic objects exist constantly in the characteristic rice-water discharges of persons affected with cholera, and in the atmosphere of infected places. The particular objects in question were first seen by two or three members of a committee appointed by the Bristol Medico-Chirurgical Society for the microscopic observation of subjects connected with cholera. The first drawings of them, together with the great variety of other objects generally to be met with in the rice-water discharges, were made by Mr. J. Swayne and Mr. F. Brittan in the second week in June last. These drawings, together with specimens of rice-water, were exhibited at the next meeting of the committee. At that meeting there were present Mr. J. G. Swayne, Dr. Bernard, Mr. Neild, Mr. A. Prichard, and myself. Numerous other drawings of the same kind by Mr. J. G. Swayne and Mr. Brittan were shortly afterwards laid before the Bristol Medico-Chirurgical Society. The laborious observations subsequently made by Mr. Brittan and Mr. Swayne, and laid from time to time without reservation before the Bristol Medico-Chirurgical Society, certainly did much to show that some very important relation existed between these bodies and malignant cholera. Shortly afterwards, and being at the time aware of this discovery, I detected the same organisms in great numbers in almost every specimen of drinking-water which I was enabled to obtain from cholera districts. This led me to examine a great number of specimens of water from healthy quarters, and although I often found in it a good deal of matter of various kinds, organic and other, in no single instance did I see anything resembling the peculiar bodies in question. These considerations and others have led me to the following conclusions:—1. That the cause of malignant cholera is a living organism of distinct species. 2. That this organism, which seems to be of the fungus tribe, is taken, by the act of swallowing, into the intestinal canal, and there becomes infinitely multiplied by the self-propagation which is characteristic of living beings. 3. That the presence and propagation of these organisms in the intestinal canal, and the action they there exert, are the cause of the peculiar flux which is characteristic of malignant cholera, and which, taken with its consequences, immediate and remote, constitute the disease. 4. That the new organisms are developed only in the human intestine. 5. That these organisms are disseminated through society: first, in the air, in the form of impalpable particles; secondly, in contact with articles of food; and thirdly and principally, in the drinking-water of infected places. 6. That these organisms may probably be preserved for a long time in the air with their powers unimpaired, but that in water, which is doubtless the chief vehicle for their diffusion, they soon undergo decay; and, moreover, sharing in this the common fate of their tribe, become the prey of beings of a higher order."

The conclusions taken together enable us to account for all the chief phenomena of the disease. They lead, besides, to practical references of the utmost importance. By acting upon this knowledge now, although we may not be able to stay the plague, we may yet much abridge its sojourn among us. The means by which the mitigation may be accomplished are obvious. The objects they include are twofold:—1. To destroy from this time forward all the poison which continues to be generated in the bodies of infected persons; and (2) to prevent, as far as possible, the poison which has already escaped from us from taking effect. The first of these objects may be attained by the simplest means. All that is required, in fact, is to receive henceforth the discharges from the sick into some chemical fluid known to be fatal to beings of the fungus tribe. Nothing more is necessary than to choose among these agents the cheapest and the most convenient. I content myself merely with suggesting that the solution of chloride of zinc possesses strong recommendations, if it should be found, as I believe it would, effectual for the end in view. The second object, that of preventing the poison which has already been cast loose from taking effect, is more difficult to accomplish. But for this, too, a great deal may be done. As water is the principal channel through which this poison finds its way into the human body, a fact already established by the researches of Dr. Snow, and of the discovery of which he must have the whole merit, so is the procuring pure water for drink the first and most effectual means of preventing its action. From this day forward let the people of infected districts be supplied with water from healthy quarters or from sources beyond the reach of contamination; and if this be not feasible, let steps be taken to rid the water they are compelled to drink of the deadly poison it holds. This might be done by very simple means. It is probable even that the act of boiling water would suffice; but if boiling the water should not succeed, it might be distilled. To no part of the community is the need of an immediate supply of pure water more urgent than to the immense floating population of the port of London. The importance of preventing the disease in sailors will be more apparent when we reflect on the unquestionable fact that ships are great instruments for its diffusion.

I am, Sir, yours truly,

Halifax, Sept. 19th, 1884. T. M. DOLAN, M.D.

BICYCLE RIDING AND PERINEAL PRESSURE: THEIR EFFECT UPON THE YOUNG.

To the Editor of THE LANCET.

SIR,—I have read with great interest the article with the above heading in your issue of last week, by Dr. Strahan. I quite agree with everything that he has said, and am even prepared to go further than he has done, and to assert that bicycle and trycicle riding will produce stricture of the urethra.

During the last year I have had two cases under my care which were distinctly traceable to the effects of continuous riding on such a saddle as that described by Dr. Strahan. The first case came under my notice in January last, the patient being eighteen years of age. He had been racing for the last twelve months, more or less. He never had gonorrhœa, nor had he practised masturbation. Normal calibre of urethra 32 mm.; dense stricture defined by No. 17 bulb at 4½ in. from meatus. The second case consulted me about the end of March. He was a middle-aged man, who had taken to tricycling for about three years before I saw him. He came to me complaining of perineal pain and difficulty of micturition. In this case the stricture was accompanied by an enlarged and tender prostate. Normal calibre of urethra 30 mm.; stricture of 15 mm. at 5 in. from meatus. Both these cases were treated by internal urethrotomy, and made satisfactory recoveries. It appears to me that the stricture produced by cycling approaches very nearly in character to a traumatic stricture, and good results can only be obtained by cutting. I think it possible that the bicycle saddle could be so constructed as to throw the weight only upon the tuberosities of the ischia. If this could be managed, one of the greatest objections to a most healthful form of exercise would be removed. As it is, however, with the saddle now in use, I am afraid that the present generation of surgeons will find a lamentable increase in the number of these stricture cases.

I am, Sir, yours truly,

GEORGE HERSCHELL, M.D. Lond.

Mocrgate-street, E.C., Sept. 22nd, 1884.

To the Editor of THE LANCET.

SIR,—Allow me to ask Dr. Strahan, through the medium of your valuable journal, if he, during the last ten years of his professional career, has met with a single case of perineal mischief, either in young or old riders, the direct effect of bicycle or tricycle (with saddle) riding? If so, I shall be glad to hear of such. I have carefully read Dr. Strahan's interesting paper published in your issue of Sept. 20th, but I must say, with all due respect to that gentleman, that he appears to have imagined certain evils which, as far as I know, have not yet made their appearance from the causes so lucidly described by him. There are many men who have been great cycle riders from the times of the old "dandy horse" to the present period, and who have ridden every kind of machine, from the above to the old "bone-shaker" and its various grades of development, up to the

now beautiful, comfortable, and almost perfect machines. Yet although these men have ridden nearly every day for the last thirty or forty years and have often covered long distances in a single day, even on the "bone-shaker" with its hard saddle and rigid spring, they are now living examples of the value of cycling, and are in the enjoyment of remarkably good health, both of mind and body—instance Viscount Sherbrooke, one of the oldest bicycle riders. That the pressure on the perineum, from causing congestion of the prostate, &c., will lead to masturbation and early sexual indulgence is a statement which I am inclined flatly to deny. I maintain that the healthy out-door exercise, the exhilarating movement, the pleasures of companionship, the constant change of scene in bicycle-touring, as well as the healthy rivalry of the race-track, have a tendency to take a young man out of himself, and to induce that condition of mental and physical equilibrium antagonistic to the state of nervous weakness and irritability which leads to sexual abuses. Let anyone look at the members of the various clubs from all parts of the country assembled at some great "meet," and he will at once admit that a finer, healthier-looking, jolly set of young fellows are seldom seen together. Rarely will one detect amongst them the peculiar physiognomy of the masturbator or the sensuous aspect of the indulger in early sexual pleasures. Such individuals usually seek other resorts or avoid the gaze of the crowd.

I have been tempted to write the above remarks, as I think it is a pity that statements should be made which are only theoretical, and which are entirely unsupported by facts, and which are calculated to deter many from taking to the health-giving pleasures of the wheel, and, besides that, to injure an industry which is giving employment to thousands. Trusting you will favour me by the insertion of this letter,

I am, Sir, yours faithfully,

H. A. ALLBUTT, M.R.C.P.E., &c.,
Representative Councillor, Cyclists' Touring Club; Hon. Medical Officer, Leeds Harehills Cycling Club.

Park-square, Leeds, Sept. 23rd, 1884.

OVER-PRESSURE IN SCHOOLS.

To the Editor of THE LANCET.

SIR,—In the instructions to inspectors of schools in England and Wales, issued from the Educational Department of the Government, Sir F. R. Sandford, secretary of the Educational Department, communicates the following official information:—"*Many well-founded complaints have been made of undue pressure on backward scholars by keeping them in after school, by long home lessons, or by an injudicious use of emulation.*" These words have acquired additional significance since the date of their issue, August 9th, 1882, and in the face of the criticisms of this subject in the chief daily journal of the past week. When the secretary of a Government Department makes such an assertion as is here quoted, and this receives confirmation from a consensus of opinion in the medical profession, the subject cannot be readily dismissed in its medical aspect. Either Sir F. R. Sandford must be giving needless instructions to the inspectors of his department and making an exaggerated statement in justification of these instructions, in saying that "*many well-founded complaints have been made of undue pressure,*" or Mr. J. G. Fitch, one of the inspectors of schools, must be in error in throwing doubt on this subject, and must differ greatly in opinion from the secretary of his department, who, presumably in his official capacity, expresses the conjoint opinion of a large majority of inspectors, and the matured conclusions of the chief officers of the Educational Department, as embodied in the words quoted. A general uneasiness is displaying itself in the public mind, which is not likely to be set at rest till some further reassurance is given that over-pressure is not converting our schools into intellectual forcing houses, to the detriment of the physical and mental constitution of the scholars.

Nor can the bearing of this question be confined to the elementary schools of the country. Private schools, grammar schools, and the higher grade public schools, are all engaged in a great educational struggle, necessitated by the prevailing system of competitive examination for entrance into every intellectual sphere of life. It is quite contrary to the nature of things that such competition should be entered into without the risk of undue effort on the part of some emulous students, and undue pressure on the part of ambitious teachers. While in such a struggle it is only a minority, and perhaps a very small minority, who suffer so much in health as to increase the numbers in our lunatic asylums, or to add to the death-rate from cerebral diseases directly referable to mental strain in early life, yet there may be a very great impairment of mental and physical vigour such as only can be cognisant to and duly estimated by the medical practitioners of the country. Such knowledge scarcely admits of a statistical classification or proof, but the opinion in the profession is weighty enough to justify the belief that there is danger ahead unless some modification of the existing system is adopted having a greater regard for health at the educational period of life. Some impatience will in all probability be manifested by both the managers and the inspectors of elementary schools at the prospect of the introduction of some medical direction and authority on matters of education beyond what has hitherto prevailed; and a still greater impatience on the part of the authorities of the higher institutions of the country may be expected. But in these days of educational struggle some restraining influence is necessary here and there to advise when the more emulous should be checked, to guard against over-pressure of the less intellectual in their struggle for distinction, and to weed out that residuum on which it is a waste of power to attempt to do more than to teach the most elementary subjects in the most elementary way. The general acquiescence by parents and schoolmasters alike in the existence of a necessity for the great educational struggle which prevails to meet the requirements of the modern competitive system places almost beyond the sphere of controversy the question of "over-pressure," voluntary or imposed, in the educational system of the day in every grade of school. Scarcely a practitioner in the country can be devoid of experience of the evil; but the problem remains to be solved how it can be judiciously, yet successfully, met and rectified with no more interference with our national educational system than is absolutely necessary. It is an anomaly in our laws that while the regulation of the physical labour of the young in our factories is subjected to medical supervision, the mental labour at an earlier period of life is not so. The mental strain of the one should have the same protection and regulation as the physical strain of the other.

As a family practitioner my experience is that the school vacation time and the return of pupils to their homes never come round without bringing me some school boys as patients with debility and cachexia, for whom I advise *less work*. During the twenty-four years I was medical officer at Wellington College (sixteen years of which I taught the experimental sciences there, and therefore had some personal insight into the effect of school work on pupils and teachers), I do not remember a term passing in which both boys and masters were not *jaded* by the work of the term, and the examination at the end of it. Boys grow wan and intolerant of discipline, and masters (even the best of men) become irritable and querulous among themselves. What can this be but over-pressure? The vacation passes and both return invigorated. What other duty in life so jades as to make three or four months' rest out of the twelve a necessity? The question naturally arises to the medical mind, can the human brain be subjected to such an educational *over-pressure* and rally sufficiently to leave no permanent traces behind?

I am, Sir, yours truly,

Wokingham, September 25th, 1884. J. G. BARFORD.

LUNACY LAW AGITATION AND SUICIDE.

To the Editor of THE LANCET.

SIR,—Agitation against existing lunacy laws, without the present possibility of substituting any other method of procedure in dealing with persons of unsound mind, is producing its natural results. Members of the medical profession, who do not wish to encounter the possibility of being subjected to harassing and vexatious litigation by complying with the requirements of these laws on behalf of their patients, have in many cases, with the writer of a recent letter in a medical contemporary, made their resolution "they will not sign any certificate for anyone, rich or poor." As a consequence of this resolution the public has, much sooner than could have been anticipated, realised how much greater an evil it is to

have numerous persons of unsound mind left at large than for one error in procedure to take place.

On June 28th last you did me the honour to insert a letter, in which I discussed this evil from a social, statistical, medical, and legal point of view, with particular reference to suicidal deaths, and your leading article of the 20th inst. once more directs attention pointedly to the alarmingly increasing number of suicides. These do not appear to be confined to any particular class of society, as reference to the following cases taken from *The Times* of the last few days will show, and some of them seem all the more deplorable because the exercise of unfettered medical skill, combined with prudent care and forethought, would assuredly have prevented such distressing consequences:—Sept. 11th, C. C. drowned himself in the Thames; Sept. 11th, M. A. A. cut his throat with a razor; Sept. 13th, H. W. poisoned himself; Sept. 15th, G. D. drowned himself in a duck pond; Sept. 16th, A. W. C. strangled himself with a leather strap; Sept. 17th, F. W. drowned himself in Hampstead Ponds; Sept. 17th, M. A. M. drowned himself in a tank at the rear of a house; Sept. 18th, P. C. smashed his skull by springing over a staircase; Sept. 18th, P. M. shot himself; Sept. 20th, F. S. cut his throat.

There is little doubt that in the majority of these, and other cases of suicide, the fatal act was induced by an existing condition of melancholia or other form of brain disturbance, the manifestations of which may have been active or passive, accompanied by delusion or hallucination, or otherwise; but still the well-recognised mentally diseased but easily curable condition in the early stages, "melancholia," in which the aspect of everything to the unfortunate sufferer becomes as it never was to him before—completely changed—and life under this infliction becoming "flat, stale, and unprofitable," he hastens, it may be with his diseased condition only as yet imperfectly realised by his relatives, and while still without proper care or treatment, successfully to shake off its trammels.

Compare those results of everyday experience with regard to unsoundness of mind in persons at large, under care at home, or under care as single patients with or without certificates, with the results obtained under recognised and properly constituted care and treatment. Out of a total number of 78,528 persons registered as of unsound mind during the past year, only fourteen succeeded in committing suicide while under such care.

Apologising for the length in which I have already intruded on your valuable space, I would ask you to allow me to conclude this letter in the words of your reviewer of the last report of the Commissioners in Lunacy: "It would be desirable that some record should be made of suicides by insane persons not under certificates. If such cases were reported by the coroners to the commissioners, the latter, it may be predicted, would by investigation obtain some valuable information in regard to the action of the present law of certification in preventing insane persons being placed under proper care."

I am, Sir, yours obediently,

Harley-street, W., Sept. 20th, 1884. JAMES ADAM, M.D.

"CHOLERA IN MARSEILLES."

To the Editor of THE LANCET.

SIR,—I notice a letter in your issue of the 20th inst. from Dr. Drysdale, an *officier de santé* of Mentone, in which he tells us that "there were cases of cholera in Marseilles last autumn"; and he at the same time throws some sidelight on the system of *suppressio veri*, which appears to have been in vogue to prevent the fact of the existence of Asiatic cholera leaking out. This tendency, perhaps, is not the sole privilege of Marseilles. However that may be, the following information, gleaned from a conversation I had the other day with a French naval officer who was a fellow-traveller with me on the Paris, Lyons, and Marseilles Railway, might, I venture to think, tend to prove suggestive. He told me, and very frankly, that there were cases of undoubted cholera on board his man-of-war, lying in the harbour of Toulon early this year, at a time, I might recall attention to the fact, when the French press was seized with a sudden frenzy for the imposition of rigorous and irksome, but futile, quarantine on all arrivals from the far East, on account of the prevalence of cholera in Bombay and Egypt. This French war-ship had, albeit, come from Tonquin, where she had been actively engaged in operations, but this, and other unwelcome facts or items of intelligence, were carefully kept in the dark from eagerly inquiring "special" and "own" correspondents of the English press.

Now, whether the comma bacillus of Koch and others be, forsooth, a common or garden bacillus, pure and simple, or a myth, it is but fair to Dr. Koch that the medical press should hold over its verdict till the other side of the question is also before the profession in its present phase. It can scarcely be gainsaid that the sanitary arrangements of Marseilles were, and even are, anything but *sans reproche*, and the same may likewise be pronounced of many of the Italian ports. The obvious indication, therefore, is that the sooner the authorities on the Continent set to work in this direction and discard *in toto* the futile and absurd *fiasco* of quarantine the better would it prove in the interests of the public. Your pictorial contemporary, the *Graphic*, not long since favoured us with some amusing and humorous but telling sketches of how quarantine, fumigation, &c., are carried out; and, I think, it would do good if medical artists like Mr. P. Teale ("Dangers to Health: a Pictorial Guide to Domestic Sanitary Defects," J. and A. Churchill, London) were to delineate in like manner all insanitary places as well as the sanitary ones, and exhibit them in some Health Exhibition like the one now open in South Kensington.

I am, Sir, yours very truly,

London, Sept. 22nd, 1884. JOHN C. LUCAS.

MANCHESTER.

(From our own Correspondent.)

THE WATER-SUPPLY AND THE REMOVAL OF NIGHT-SOIL.

As a result of the dry warm summer we have had two important matters connected with public health come prominently into public notice. First, the water-supply appeared to be getting within measurable distance of real scarcity, several of the reservoirs approaching a dangerously low condition, and a great outcry was for a time raised, especially in some parts of the city, as to the quality of the supply. It was stated by numerous correspondents in the newspapers that the water was turbid and ill-smelling, particularly after being boiled, and there certainly seems to have been some foundation for these complaints; but it was apparently the water from one reservoir in particular that was chiefly at fault, the cause of it being, not any unusual contamination, but the low state of the reservoir, and this with a hot sun pouring steadily down on an almost stagnant shallow layer of water had given rise to the conditions complained of. Since the heavy rains of the last two or three weeks all complaints have ceased, and our water-supply is now in its usual satisfactory condition. Another public grievance has, however, called forth loud and bitter complaints. Manchester, as many of your readers are aware, has, during the past ten years, adopted to a very large extent the dry system of earth-closets, removing regularly the night-soil and other refuse of the city to a large depôt situate on the outskirts of the town, where elaborate works and machinery are in operation for converting it into a marketable manure, which has been attended with a very large measure of success. But to remove the enormous mass of material constantly and quickly from so large a population as this necessitates the employment of a large number of waggons to convey the contents of the closets &c. to the above works. Specially constructed pans, with tightly fitting lids, and waggons specially built for the purpose of holding these, are in use, and hitherto have not given rise to much annoyance, but lately the papers have teemed with complaints of the nuisance arising from these carts in passing through the streets and from the removal of the pans during the daytime, and it has been suggested that the work should be done at night instead of being carried on all through the day. At one time it was done at night, but the greatly increased cost and the difficulty of efficiently supervising the men engaged in it, led to the nightwork being abandoned. Probably now that the hot weather has passed by for the present season, we shall hear less of any nuisance being caused. If it be chiefly a matter of cost, this ought not to stand in the way, for although the Health Committee, upon whom this work devolves, is always being reproached as the spending depart-

ment *par excellence*, still public opinion is daily advancing in matters relating to sanitary work, and few will complain that money is ill-spent that tends to make our cities and large towns more healthy.

ACCOMMODATION FOR INFECTIOUS DISEASES.

The authorities here have lately been active in providing accommodation for infectious diseases. At the last meeting of the Barton Rural Sanitary Authority plans were submitted for providing a temporary infectious hospital for eight patients, at a cost of £200. The Manchester guardians also had before them plans of a temporary hospital for infectious diseases, which was estimated to cost £2326, and at a meeting of the Salford Guardians sanction was received from the Local Government Board to a proposal to subscribe £500 per annum towards the maintenance of the Salford Borough Fever Hospital. The expediency of this step is, however, doubtful, for it is certainly undesirable to mix the pauper class of patients with those of a better station in life, and will tend to prevent the latter from making that use of these hospitals which is so desirable if anything like isolation of infectious disease is to be attempted; added to which it has but lately been reported that Salford Hospital had not sufficient room for the cases which already come under the notice of the health authorities there.

THE SHIP CANAL SCHEME.

The ship canal scheme, which appeared totally wrecked on its rejection by the Committee of the House of Commons, is showing, if possible, increased vitality, and its promoters are determined to bring it forward again in the next Parliamentary session. In connexion with it there is a question which has not received much public attention—viz., what provision is to be made to prevent the canal and docks in the neighbourhood from becoming a source of nuisance and danger by stagnation of the water, as the flow therein will be of very limited amount, and if any sewage finds its way in a very undesirable state of things may result.

VACANT MEDICAL APPOINTMENTS.

Several important medical appointments have recently fallen vacant here. At St. Mary's Hospital the Resident Obstetric Surgeoncy has been relinquished by Mr. A. Winterbottom, after some three years' tenure of office. The posts of Resident Medical Officer and that of Resident Surgical Officer at the Royal Infirmary are both vacant, the former by the unexpected resignation of Dr. Grant, and the latter by the expiration of the appointment of Mr. B. Pollard; Mr. Pollard has held the post of Resident Surgical Officer for the past two years to the satisfaction of all who have the management of the Infirmary, and the Board would fain have retained his services for a longer period if he could have been prevailed on to remain. The above are some of the most valuable and important of provincial hospital resident posts.

LIVERPOOL.

(From our own Correspondent.)

THE NORTHERN HOSPITAL.

THIS hospital was established just fifty years ago, and the present building was erected in 1834, on a site which was then at the north end of the town, but has now become nearly central. It has for years been found wholly inadequate to the increasing demands made upon it, but at present it is impracticable to rebuild it upon its present site or to remove to a new one. As, however, increased accommodation was urgently required for the nursing staff, a new building has been erected on a site closely adjoining the hospital. It is constructed chiefly of galvanised iron lined with varnished pine, approached by a covered bridge, and contains accommodation for twenty-six nurses and the matron. It was opened on the 17th inst. by the Mayoress (Mrs. Holder), and, at the same time, the number of beds in the hospital was increased to 150 by the opening of a new ward. These alterations will prove of immense benefit, but the erection of a new hospital cannot be long deferred.

SMALL-POX EPIDEMIC AND HOSPITAL ACCOMMODATION.

At the last meeting of the Health Committee, held on the 18th inst., it was announced that the temporary small pox hospital erected on the Park Hill estate was now ready. It was resolved that the hospital should be opened for the reception of such patients suffering from small-pox as are now removed under the instruction of the medical officer of health to the workhouse hospitals. There was some opposition to the resolution, which was only carried by a majority of one. Thus the principle contended for in THE LANCET has been practically admitted, and it may be assumed that in future the workhouse hospitals will be reserved for strictly pauper cases. At the same meeting it was stated by the medical officer of health that the death ratio was 24·8 per 1000.

MEDICAL FACULTY, LIVERPOOL UNIVERSITY COLLEGE.

The winter session will commence on Saturday, October 4th; Lord Derby is expected to preside and to distribute the prizes. The success of the students during the past year at the examination was very marked, and, judging by results, the local school of medicine under the new *régime* promises to be more successful than ever. Dr. Waters, having resigned the chair of Physic, is succeeded by Dr. Glynn, who has for some years past been well and favourably known to the students as a most successful clinical lecturer and teacher at the Royal Infirmary, to which he was elected physician fourteen years ago.

CRIMES OF VIOLENCE IN LIVERPOOL.

On the 17th inst. the body of a girl twelve years of age was found floating, perfectly nude, in the Leeds and Liverpool Canal, under circumstances strongly suggestive of criminal violence. On the the 20th inst. a female brothel-keeper was stabbed in the chest by a Russian seaman, death taking place very shortly. Within the last few months four girls, their ages ranging from seven to fourteen, have been admitted into the Lock Hospital suffering from disease following alleged criminal assaults. Violent assaults on the police are of almost daily occurrence. Whether all these are commensurate with the increase of population or not is doubtful, but that they cause much uneasiness is beyond doubt. In spite of the advance of temperance there is still a fearful amount of drunkenness prevalent here, arising quite as much from the quality as the quantity of drink imbibed. If the adulteration of beer and spirits could be prevented, a reduction would almost certainly take place in crimes of violence, many of the prisoners arrested being drugged as well as drunken.

IRELAND.

(From our own Correspondent.)

THE SANITARY CONGRESS AND EXHIBITION, DUBLIN.

IN a few days the Exhibition and Congress, held under the auspices of the Sanitary Institute of Great Britain, will be open. The former, located in the suburbs, will continue for three weeks, while the Congress will have its meetings in Trinity College, and will last a week. The Exhibition will be formally opened by the Lord Mayor, who has also issued cards for a conversazione to be held at the Mansion House on October 1st. Bands, concerts, flower show, fêtes, illuminations, promenades, and other attractions, will be offered to visitors, and the Exhibition, it is expected, will prove extremely popular. Besides papers by Dr. Cameron and others, Surgeon-General De Renzy will contribute one on the Conditions under which Cholera is Prevalent in Northern India, and Dr. MacCabe, Local Government Board Inspector, on the Water-Supply and Drainage of Small Towns. Surgeon-Major Jones will read a communication on the Insanitary Condition of Small Towns in Ireland, while Dr. Flynn will contribute a paper on the Circumstances attending the Discharge of their Duties by Medical Officers of Health in Ireland. Other subjects will include Ambulance Work, Temporary Hospitals, Isolation, and Ventilation. On October 2nd a public banquet will take place in the Shelbourne Hotel, and on the following Saturday three pleasure trips have been arranged.

DUBLIN HEALTH EXHIBITION HOSPITAL FETE.

In connexion with this Exhibition arrangements are being made for a hospital fête for the benefit of the Dublin city hospitals to be held in the Exhibition on Saturday evening,

October 4th. The hospitals which will participate in the amount obtained comprise twelve general and five special hospitals; and it has been arranged that nine-tenths of the net proceeds of the receipts shall be divided in equal proportions among the twelve general hospitals, and one-tenth among the five special hospitals. The committee have appealed to the owners of gardens in the vicinity of Dublin for donations of evergreens and the loan of plants for decorating the hall, and also for cut flowers and bouquets for sale at the fête, or for distribution among the hospitals. His Excellency and the Countess Spencer have signified their intention of being present if possible.

THE LIFFEY.

As the weather gets cooler less complaints are heard about the abominable effluvium which arises from this foul cesspool, but that it is a dreadful nuisance and should not be permitted to exist in the centre of a large city is acknowledged without a dissenticnt. A correspondent in one of the daily papers has this week made a suggestion which, if adopted, would probably be of service in mitigating, if not entirely removing, the evil. The plan he proposes for cleansing the river is to narrow its passage considerably by the construction of two stout walls of masonry, one on either side from Kingsbridge to Carlisle Bridge, with apertures at various points for discharging sewage, the almost certainty being that through this narrow channel the sweep of the tide would be rapid and sufficiently strong to carry the sewage well down the river, and so prevent any considerable deposit of the filth in the Liffey bed. The river so cleansed should be arched over with tubular iron plates or brickwork, as has been done by the Corporation of Belfast with what was as foul a nuisance as the Liffey, viz., the Blackstaff River. The cost would be very large, but any measure that would abate the evil and promote the health of the citizens should be welcomed.

The salary of the consulting sanitary officer of Lismore Union has been reduced by the guardians from £20 a year to £5.

ITALY.

(From our own Correspondent.)

SCARCELY will the cholera have disappeared when that most characteristic of its sequelæ—controversy—will be fanned into full blast. Already we are having a foretaste of this bequest, the disputants ranging themselves round three groups of questions. First, as to whether or to what extent the comma bacillus of Koch is pathognomonic of cholera; second, as to the hygienic measures best fitted to repel a future visitation, and the order in which these should be commenced; and, third, what remedies or what methods of treatment are most worthy of the serious consideration of the profession in its fight with the actual disease. Unfortunately, there is in all these questions a debatable margin wide enough for any number of controversialists, and, regarding the second in particular—that of hygiene—the phenomena witnessed and attested in Naples are perplexing enough. For example, the narrow, ill-ventilated streets intersecting blocks of buildings in which the population teems like rabbits have been precisely those in which cholera has numbered least victims; while the dwellings which, from their amplitude and situation, the freely aired thoroughfares dividing them, are in marked contrast to the preceding have contributed the heaviest contingent to the hospital and the cemetery. Again, the ill-fed, badly clothed, unwashed inmates of the rookeries have come off very lightly in comparison with the well dieted, comfortably clothed, not uncleanly bourgeoisie. "Partly because by nature," says the correspondent of the *Opinione*, whose letters from Naples have given the best account of the epidemic, "we have something of the Arab, partly because the facts above stated reinforce the sentiment of fatalism which is at the bottom of our southern character, our populace laughs to scorn all the admonitions of the authorities and devours figs, capsicums, tomatoes, more or less unripe, does everything in fact which it has means to indulge in, though forbidden by the profession. As to soup kitchens, it will have none of them; 'these,' it says, 'are for the sick, and we are quite well.'" Another fact is also significant: the troops—including the volunteers of the civil population, who have laboured so heartily in the work of isolating the sick—are now suffering severely from cholera, though every precaution in the matter of food, drink, and sleeping accommodation has been observed on their behalf. Then, as to the hygienic reforms to be effected in Naples, there is one party eager to begin by pulling down the *fondaci* and housing the court-and-cellar population in properly lighted and ventilated apartments; while another party, which has a good deal to say for itself, would commence operations by bringing in pure water in place of the contaminated and insufficient supply apportioned to the city. To carry out the first the drain on the national exchequer will be enormous, insomuch that it is seriously proposed to suspend the undertaking for connecting Rome with Naples by faster trains and to devote the money so economised to the work of rebuilding the ramshackle quarters. New imposts, says the *Opinione*, are what Italians cannot bear, and there is no other way to meet the expense of rehabilitating Naples than by deflecting to that purpose the means set apart for less urgent enterprises. The financial difficulty is always the primary one in Italy, and will continue so until she reduces her overgrown army and ceases to build colossal ironclads, every one of which, says M. de Laveleye, involves the ruin of ten thousand of the population. So it is likely that the less costly undertaking will be the first to be completed—namely, the providing Naples with a pure and abundant water-supply, which will be one great step in the right direction.

After the hygienic controversy comes the therapeutic one. Hypodermoclysis, practised according to the recommendations of Pacini—that is, when, and only when, the patient is in the stage of collapse—has been rewarded with a large enough measure of success to ensure it against absolute professional ostracism; but the same cannot be said of the exhibition of æthiops mineralis (black sulphuret of mercury), whether used as a prophylactic or as an active remedy, a question on which an animated correspondence is now being maintained in the leading Roman journals, professional and lay. Dr. Regnoli, an eminent physician of the Eternal City, has published a treatise on the æthiops mineralis, in which he reinforces the favourable testimony of Dr. Hayem of Paris by his own experience, having found it efficacious in 95 per cent. of the 241 cases in which he employed it. Its action, he maintains, is antiseptic on the comma bacilli; and to the objection that the black sulphuret of mercury is insoluble and therefore inert, Dr. Murino asserts that its solubility has been proved in his own practice and in that of Dr. Colapietro, the sulph-hydric acid being liberated in the system and impregnating with its characteristic odour the perspiration of the patients, while the æthiops has tinged the linen black. On the other hand, it is argued that Dr. Hayem obtained no successful results with the black sulphuret in confirmed cholera, but only in the preliminary diarrhœa, while even in this latter case the efficacy of the drug may have been shared by the lemon-juice in which he exhibited it. If the antiseptic action of the drug on the cholerigenous microbe is due to the sulphur in its composition, how is it that the eminently soluble sulphate of potash has not the same effect? Again, the drug has been tried in case after case in Busca, where the cholera has been very severe, but with absolutely no result whatever, while in Naples the profession have so little belief in it that it has not been tried at all. Dr. Murino, who holds that we can make ourselves cholera-proof by small doses of black sulphuret, and who therefore enters a cholera lazarettto "with a light heart," promises to return to the charge. From the great medical school of Padua, again, we have an imposing statement of the virtues of laudanum in the early diarrhœa of cholera, Dr. Carlo Tunisi maintaining that his Neapolitan brethren have rather neglected the opportunities afforded them by the drug, which, if taken in time, arrests the disease before it reaches that algide stage in which the sole remedy yet found efficacious has been hypodermoclysis. In Naples, indeed, the only physician of note who has placed any reliance on it has been Professor Semmola, but his partial success has been mainly among the civil population, where the medical man is apt to be called in too late, while Dr. Tunisi, practising on soldiers in barracks and prisoners in gaols, where every stage of the malady is under prompt surveillance and where the primary diarrhœa is immediately met by the opiate, never yet had a case which, after the exhibition of laudanum, drifted into the condition of collapse. And so

Naples, Rome, and Padua are engaged in something like a "triangular duel" over the efficacy of rival modes of treatment which have long been partially reconciled, with a certain measure of success, in India, namely, the exhibition of calomel and opium in doses of two grains to one grain, or two grains to half a grain for an adult. The communication of Mr. Johnson Martin to THE LANCET of August 23rd might be studied in Italy with much advantage.

There are certain phenomena peculiar to this outbreak of cholera in Southern Europe which should form the theme of careful official inquiry. After the outburst of the malady in Toulon its direction was much less northwards than southwards. Again, both in Italy and France it visited great seaports most heavily, while in Italy this curious spectacle was witnessed—it selected alternate seaports for attack. For example, it overleaped the populous and not over-cleanly Genoa, and alighted heavily on the less populous and not more insanitary Spezia. Again, it overleaped the less populous and decidedly insanitary Leghorn, and exploded with fearful violence in the more populous, though not very much more insanitary, Naples. What was its principle of selection? How is it that Messina and Palermo, seaports so severely scourged by it in former visitations, escaped so cheaply on this occasion? And how is it that the great provincial capitals—Turin, Milan, Venice, Florence, and Rome herself, all of them the scenes of virulent outbreaks on previous occasions—have hardly had one case? Able and experienced investigators like Professors Tommasi Crudeli and Moleschott might make a study of these questions and teach us a great deal. Meanwhile, an eminent authority, writing to the *Opinione* from Genoa, contends that Spezia and Naples were both made candidates for an outbreak of cholera by the Italian Government, who established a permanent lazaretto in the immediate neighbourhood of both seaports.

Rome, Sept. 22nd.

Medical News.

APOTHECARIES' HALL. — The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Sept. 18th:—

Armson, Frank Greasley, Yoxall, Burton-on-Trent.
Barker, W. J. Townsend, Redland-road, Clifton.
Chamberlain, C. Basham d'Eyncourt, Univ. Coll. Hospital.
Jones, Isaiah Henry, Maida-vale.
Simpson, G. A. Garry, Maryland-road, Sutherland-gardens.

At the Preliminary Examination in Arts, held at the Hall of the Society on Sept. 11th, 12th, and 13th, the following candidates received certificates of proficiency in General Education:—

SECOND DIVISION (in alphabetical order).—Alfred Alexander, John Hampden Barker,* F. Wells Beville, Edward Walter Brunton, P. M. Robertson Bryant,* Aubrey Conway,* Basil Wiseman Conway,* Frank Gillett Cory, Sydney Robert Cross,* Horatio Nelson Crossley,* Ernest Buxton Cutting, John Halliwell,* William Hindle, William Robert Howard, A. Talman Ilott, David Owen Jones, J. Howard Jones, Arthur Edwin Joscelyne, Percy J. Kingston, C. R. Maitland, Francis R. Septimus Milton,* Eustace Ayton Payne, John W. George Prince, Ernest James Reynolds, Reginald G. W. St. Cedd, Eleanor Sophia Warner,* Richard Millbourn West.

* Passed also in Elementary Mechanics.

The following candidate passed in Greek alone:—

Herbert William Tolner Crow.

The following passed in Elementary Mechanics alone:—

Charles Stanger Bowker, Charles Edwin Cornwall, Stuart A. Charles Dallas, John Edward F. Hosking, Richard J. O'Halloran, Robert E. Franklyn Pearse, Nigel Alan Allison Trenow, Leslie Herbert Walsh.

JACOB H. STEWART, M.D., of St. Paul, Minnesota, who, in 1879, was appointed by President Hayes, Surveyor-General of Minnesota, died recently at the age of fifty-six.

A NURSE of the Wonford House Asylum, Exeter, has been fined 1*s.* and costs for slapping the face of a patient and for giving her a second bath as a punishment.

A NEW street paving has been introduced in Berlin, and is said to be superior in many respects to wooden blocks. It consists of layers of bricks impregnated with asphalte.

IN spite of the protestations of the Turkish authorities that the plague has ceased at Bagdad, the Persian and the Russian Governments are taking strict precautions against the possible introduction of the disease into their territories by pilgrim migrations.

THE discussion of the disease termed "miryachit" has been conducted with so much warmth in Naples, that an editor of one of the Neapolitan medical journals is said to have sent a challenge to a *brother* editor to decide the dispute by mortal combat.

A CENTENARIAN.—A man named Griffith Williams has, it is stated, just died at Bangor, having attained the age of 105. He was in receipt of out-door relief from the Bangor Union, and on the official list last year his age was returned as 102.

THE OTOLOGICAL CONGRESS.—The third International Otological Congress was held at Bâle from the 1st to the 4th inst. About forty papers and demonstrations of much interest to aurists were presented and discussed, and the Congress, in the proceedings of which some eighty members took part, may be described as having been most successful. The next Congress is to be held at Brussels in 1888.

METROPOLITAN FREE HOSPITAL.—A working-class demonstration in aid of the funds of this institution was held on the 21st inst. at Hackney. Between 4000 and 5000 members of various friendly, temperance, and trade societies assembled, and after the procession had marched through several streets, a charity sermon was preached at St. Paul's Church, Ball's-pond. Collections were held after the sermon and during the march of the procession from the church, and it is hoped that the demonstration will result in a sensible addition to the funds of the institution.

UNIVERSITY OF SYDNEY.—At the July meeting of the Senate of the Sydney University, the following resolutions were agreed to:—"That the lecturers in Clinical Medicine and Clinical Surgery, when appointed, shall hold their appointments only so long as they shall hold a clinical appointment in their particular departments in a recognised hospital." "That it be remitted to the Faculty of Medicine to consider and report on the whole questions of the status of the degrees in medicine granted by the University, and the registration of students in medicine."

SANITARY INSTITUTION OF GREAT BRITAIN.—The autumn Congress will sit at Dublin the whole of next week, excepting Monday. The Exhibition of Sanitary Apparatus and Appliances in connexion with the Congress will be held in the Royal Dublin Society's Buildings, Ballsbridge, from September 30th to October 18th. Congress tickets will be issued entitling the holder to admission to all the meetings, addresses, conversazione, and the exhibition held in connexion with the Congress. The price of the Congress tickets is half-a-guinea each. A reception room will be opened at the Royal Dublin Society's Buildings, on Monday, September 29th, at 1 P.M., and on the following days at 9 A.M., for the issue of Congress tickets, which may also be obtained previous to the meeting, on application to the Secretary of the Institute, or to the Honorary Local Secretaries, 42, Dame-street, Dublin. The lectures to the Congress, the sectional meetings, and the general meetings will be held at Trinity College, Dublin. The opening address will be delivered by Sir Robert Rawlinson, C.B., on Tuesday, at 8 P.M.

Medical Appointments.

Intimations for this column must be sent DIRECT *to the Office of* THE LANCET *before 9 o'clock on Thursday Morning at the latest.*

BIRD, F. DOUGAN, M.B., M.R.C.S., has been appointed Demonstrator of Anatomy to the Melbourne University.

BONNAR, THOMAS WALKER, L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Medical Officer for the Bishopton District of the Sedgefield Union, vice Thompson.

BRAINE, G. M. P., M.R.C.S., L.R.C.P.Lond., has been appointed Second Assistant Medical Officer to the Worcester County and City Lunatic Asylum, vice J. H. Douty, M.R.C.S., L.S.A.Lond.

BRODIE, WM. HAIG, M.B., C.M.Ed., has been reappointed Medical Officer and Public Vaccinator for the Seal and Tongham District of the Farnham Union.

DENNING, C. ERNEST, L.K.Q.C.P.I., L.R.C.S.I., has been appointed Senior Assistant Medical Officer to the Salop and Montgomery County Asylum, Shrewsbury, vice W. H. Packer, M.D., resigned.

DIXSON, CRAIG, M.D., C.M.Ed., has been appointed Honorary Surgeon to the Sydney Hospital.

DOUTY, J. H., M.R.C.S., L.S.A.Lond., has been appointed Senior Assistant Medical Officer and Deputy Superintendent to the Worcester County and City Lunatic Asylum, vice R. Atkinson, F.R.C.S.Eng., resigned.

FLECK, WILLIAM, M.D., M.Ch.Q.U.I., has been appointed Medical Officer to the Workhouse of the Wycombe Union, vice W. G. Hayden, L.R.C.P.Lond. & M.R.C.S., resigned.

GOODWYN, H., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Medical Officer and Public Vaccinator to the Newton Abbot Union, and Certifying Factory Surgeon for the District of Bovey Tracey.

HALE, CHARLES H., L.R.C.P.Lond., M.R.C.S., has been appointed Junior Assistant Medical Officer to the Salop and Montgomery County Asylum, Shrewsbury, vice Denning, promoted.

HOUISON, JAMES, M.D., C.M.Ed., has been appointed Visiting Medical Officer to the Grafton Hospital, New South Wales.

KITE, EDWIN W. D., M.R.C.S., L.S.A.Lond., has been appointed House-Surgeon to the West Bromwich Hospital, vice R. K. Delaney, resigned.

MARTIN, JAMES P., M.R.C.S., has been appointed Junior Assistant Medical Officer to the Wilts County Asylum, Devizes.

ROBBES, CHARLES E., B.Sc.Lond., B.A.Camb., M.R.C.S., has been appointed House-Surgeon to the Gravesend Hospital, vice R. J. Bryden, M.R.C.S., resigned.

SHERATON, GEO. ROBERT, L.R.C.P.Ed., M.R.C.S., has been appointed Medical Officer for the Sedgefield District of the Sedgefield Union, vice Thompson.

SMART, DAVID, L.R.C.P.L., M.R.C.S., has been appointed Medical Officer to the Bermondsey Workhouse, vice Cuolahan, deceased.

STIRLING, CHARLES, M.B., C.M.Glas., has been appointed Medical Officer for the No. 2 District of St. Olave's Union, vice Cuolahan, deceased.

WILLIAMS, CHARLES, L.R.C.P., L.R.C.S., L.S.A.Lond., has been appointed Admiralty Surgeon and Agent at Fort Isaac, Cornwall, vice Fulford.

Births, Marriages, and Deaths.

BIRTHS.

ALDERTON.—On the 20th inst., at Barnoldswick, Yorkshire, the wife of H. C. Alderton, L.R.C.P.Lond., &c., of a son.

BEATTIE.—On the 14th inst., at Ardmore House, Dewsbury, the wife of Robert Beattie, M.D., of a daughter.

BOTT.—On the 24th inst., at Kennington-park-road, S.E., the wife of W. Gibson Bott, L.R.C.P. & M.R.C.S., of a son.

CARPENTER.—On the 20th inst., at Trevathian, Beckenham, the wife of E. Carpenter, M.R.C.S. &c., of a son.

COLEMAN.—On the 20th inst., at Hill View, Streatham-common, S.W., the wife of Charles A. Coleman, M.D., of a daughter.

O'MALLEY.—On the 15th inst., the wife of Fleet-Surgeon O'Malley, H.M. Dockyard, Portsmouth, of a daughter, stillborn.

PENNY.—On the 22nd inst., at 104, Downham-road, Islington, N., the wife of William Lowry Penny, M.B.Cantab., M.R.C.S.E., of a son.

ROBINSON.—On the 20th inst., at 12, Albion-street, Hull, the wife of Arthur H. Robinson, M.D., of a daughter.

MARRIAGES.

FENN—COOK.—On the 19th inst., at Holy Trinity Church, Tottenham, Edwin Fenn, M.R.C.S., of Camden-crescent, Dover, to Mary Catharine, third daughter of G. K. Cook, of Grove-terrace, Tottenham.

KENDLE—COWAN.—On the 18th inst., at St. Nicholas' Church, Sutton, F. Wellesley Kendle, M.R.C.S., eldest son of F. Kendle, Esq., of King's Lynn, to Alice Annie, youngest daughter of George I. Cowan, Esq., of Moray House, Sutton, Surrey.

THALLON—DICKER.—On the 18th inst., at St. Paul's Church, Camden-square, William Morrison Thallon, M.D., son of the late Robert Thallon, of Brooklyn, U.S., to Emily Constance, eldest daughter of John Dicker, of Camden-square, N.W.

DEATHS.

KIMPTON.—On the 14th inst., at Cambridge-terrace, Burnt Ash-lane, Lee, S.E., John William Kimpton, M.R.C.S., L.S.A.Lond., in his 76th year.

PALMER.—On the 12th inst., Charles Palmer, M.R.C.S.Eng., L.S.A.Lond., of 44, King-street, Great Yarmouth, aged 54. No cards.

PROBYN.—On the 8th inst., at Reyharen, Hants, of diabetes, John Sutherland Howell Probyn, M.R.C.S., L.S.A.Lond., L.F.P.S., aged 44.

N.B.—*A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.*

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET OFFICE, September 25th, 1884.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Max. Temp. Shade.	Min. Temp	Rain fall.	Remarks at 8.30 A.M.
Sept. 19	30·31	E.	59	58	97	69	57	..	Cloudy
,, 20	30·14	S.E.	63	59	100	72	57	..	Cloudy
,, 21	29·84	S.W.	64	61	104	72	55	..	Cloudy
,, 22	29·79	N.W.	57	54	103	66	54	·04	Cloudy
,, 23	30·19	W.	55	51	90	64	49	·01	Fine
,, 24	30·24	S.W.	58	53	85	64	51	..	Overcast
,, 25	30·20	W.	55	53	95	68	49	..	Cloudy

Notes, Short Comments, and Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editor."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for publication or private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe, or recommend practitioners.

Local papers containing reports or news-paragraphs should be marked.

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "To the Publisher."*

ONE OF NATURE'S LITTLE WORKS.

MR. F. A. PALEY, in an article entitled "Sea Sand-grass as a Land-winner," published in *Longman's Magazine* for October, gives an interesting explanation of the cause of the sea-dunes to be seen on various parts of the British coasts. On the sites of these hummocks grows a little plant known as marram grass (Psamma arenaria), the roots of which are very long and tough. By capillary attraction, moisture is conveyed along these roots to the surface of the area on which the plant grows, and thus serves to arrest loose sand blown by the wind. By this means the dune gradually increases in size, and is firmly compacted by the interlacing roots of the grass.

Mr. Albert W. Graham.—The practice varies in different places. Our correspondent should ascertain from one of his friends the local custom.

Mr. Berne (Huddersfield).—By the phrase "bronchitic asthma" we understand spasmodic attacks of dyspnœa occurring in the course of "chronic bronchitis." The phrase is convenient, not scientific.

"WHY TROPICAL MAN IS BLACK."

To the Editor of THE LANCET.

SIR,—In your kind notice of my paper on the above subject, you conclude with these words—"The reasoning by which pigment, like the breath in the fable, is made to play the part of hot and cold, does not seem to be perfectly free from objection."

In this condensed criticism pigment is spoken of in relation to heat only, and undoubtedly pigment *per se*, whether immediately behind, or immediately in front of, a nerve ending could only have the effect of increasing those vibrations which are induced by heat waves; but it must not be forgotten that the skin of a negro and the skin of a European both measure 95° in temperature, owing to the interposition of a layer of surface moisture which by evaporation renders latent the excessive heat waves, and that it is this layer of surface moisture which thus protects the nerve endings from the excessive action of these heat waves, just as the layer of pigment protects the nerve endings from the excessive action of the light waves; consequently, the pigment is not called on to play the contradictory part of "hot and cold."

I am, Sir, yours truly,

NATHL. ALCOCK,
Surgeon-Major A.M.D.

Sept. 24th, 1884.

Mr. Donald Macrae.—Probably the successful candidate did not put the prefix to his name, which may have misled the committee as to the qualifications of our correspondent. It is not clear that he has any satisfactory means of redress; but the question is a purely legal one.

R. O. M. is referred to a general notice at the head of this column.

CHEAP DINNERS.

A propos of our remarks on this subject on the 6th inst., our attention has been called to a pamphlet by Mrs. De Vere Mathew, published by Simpkin and Marshall, which has already reached a fifth edition, and the cost of which is eightpence. A glance at the contents of the little work is sufficient to show that it is likely to be very useful in straitened households, as well as to those who are engaged in the benevolent work of providing cheap and nutritious meals for the poor.

Mechanic.—We would advise our correspondent to refrain from rushing into print on a subject upon which his information is evidently very incomplete.

"WHAT IS A MINIM?"

To the Editor of THE LANCET.

SIR,—The letter which you were good enough to print under the above heading in your issue of Sept. 6th has received notice in a quarter, certainly most appropriate, with which, however, I was not acquainted. The Editor of the *Chemist and Druggist* has obligingly sent me a copy of his issue of Sept. 15th, in which I am editorially whipped (in a way that does not hurt much, happily, albeit he misspells my name), and, I hope rightly, instructed. The question involves more than I was aware of, and, if you permit, I will pursue it somewhat further.

The substance of the additional information supplied by the Editor of the *Chemist and Druggist* is contained in the italicised portions of the following definite statements:—"The minim is the 1·480th, and the fluid drachm is the one-eighth, part of *a fluid ounce, which is the 1·160th of an imperial gallon.* The *fluid* ounce, at the temperature of 62° Fahr., with the barometer at thirty inches, *weighs 437·5 grains.* These figures are not theory, but are statute law. They were given in an Order of Council issued in accordance with the Weights and Measures Act, 1878." I will not stop to pick holes in this, though the statement as to temperature and pressure inclines me to think that the "Orders in Council" referred to must be an interesting source of information, but should be glad to know whether the assurance about "statute law" applies to *both* of the preceding sentences. In that case the "fluid ounce" is in both said to be, by law, *equivalent to the ounce avoirdupois*, while the earlier states it to be also equal to 480 minims (? by law). Without actual reference to the "Orders in Council" I may not dispute this statement, but I may be permitted to feel very much surprised. Certainly, it falls in with something I have "heard say"—viz, that the fluid ounce is the twentieth part of an imperial pint (and therefore the 160th part of the imperial gallon); but, *per contra*, it falls *out*, most decidedly, with all tradition. The "wine gallon" is our oldest, and was quite recently the most uniformly recognised, standard of fluid measure. Even were all other evidence wanting, I think it would be hard to set aside that which I adduced from Thomson's Conspectus as to the relation in former days between the minim and wine gallon. As it happens, however, I have been furnished by a private correspondent with an extract (which he was kind enough to copy and send to me in answer to my letter in THE LANCET of Sept. 6th) from Hooper's Medical Dictionary, too long to quote *in extenso*, and too closely reasoned to bear mutilation, but which ends with these words: "The subdivision of the wine pint has therefore been extended to the sixtieth part of the fluid drachm, which is termed *minim;* and glass measures, expressive of such subdivision, have been adopted by the College." From what precedes this sentence of the extract it appears that there was a time when the measurement of small quantities of liquids was effected without the needful precision, through want of a recognised subdivision, and here we see how this want came to be authoritatively, though not legally, satisfied; but it was by the subdivision of the recognised wine gallon, not of the imperial. If, therefore, the Editor of the *Chemist and Druggist* is right in his reading of the "Orders in Council"—we need say nothing of statute law at present—that the fluid ounce which makes 480 minims is the same as the fluid ounce of which twenty go to the *imperial* pint, and *not* (mark this) the fluid ounce of which sixteen go to the *wine* pint, then, I think, we have as pretty a piece of conflict of authority as one could wish to see as the issue of discussion.

I am, Sir, your obedient servant,

Collingwood, Hawkhurst, Sept. 22nd, 1884. J. HERSCHEL.

P.S.—Since the above was not only written, but despatched, I have seen your issue of the 20th inst., containing four replies to my query about the minim, to acknowledge which I hope you will allow me space for a few more lines. It is plain that the conflict of authority which I point out above is both real and capable of easy explanation. It appears that the change of standard—if I may so call it—by which the "fluid ounce" ceased to be the sixteenth part of the old *wine pint* and became the twentieth part of the more modern *imperial pint*, was the definite act of those responsible for the London Pharmacopœia of 1836. The history of this change would no doubt be interesting, but I am not in a position at present to pursue the inquiry. For the moment I must be content to express my thanks to the Editor of THE LANCET for admitting my inquiry and to the gentlemen who have assisted in tracing the apparent error to a satisfactory origin. That the matter was not altogether unworthy of examination may, I think, be inferred from the fact that no one was prepared to reply "right away" that the minim of Thomson's Conspectus, which was, indeed, the measure of 57·60ths of a grain of water, was abolished in 1836, and superseded by the minim of 54⅝ grains (nearly) to the drachm, which is now in current use, although Mr. Martindale does *in effect* say so much, and more.—J. H.

Sept. 24th, 1884.

PUNISHMENT OF CRIMINAL LUNATICS IN CHINA.

THE subjoined extract from the *Pekin Gazette* of June 19th, 1884, as translated in the *North China Daily News*, throws a painful light on the condition of legislation in the Chinese Empire:—"Ts'ên Yü-ying reports the execution by the 'slicing' process of a lunatic who murdered his grandmother with a vegetable knife in a paroxysm of madness. The maniac, who was an orphan, was in charge of his grandmother, and though entreated by her relations and neighbours to place him in official custody she was too fond of her grandson to consent. One night a paroxysm of mania came on, and the maniac rushed into his grandmother's room, flourishing a vegetable knife and dancing about. His grandmother tried to take the knife away from him; he then stabbed her repeatedly, and she fell to the ground. The neighbours came to her rescue on hearing her cries, and seized the lunatic; but the wounds he had already inflicted were so severe that after lingering a few days she died. The grandson was then tried upon the capital charge, when it was conclusively proved that the crime was committed during a fit of insanity. The penalty for parricide or matricide being death by the 'slicing' process, this sentence was inflicted summarily upon the lunatic under the authority of the standing Imperial Death Warrant."

DISCOVERY OF A ROMAN VILLA, BATH-ROOM, AND BATH, WITH OTHER ROMAN REMAINS, AT LINCOLN.

To the Editor of THE LANCET.

SIR,—Recently Mr. Roseby's ironstone miners, in the process of opening up a new mining shaft in the Greetwell Fields, about half a mile from Lincoln, came upon the remains of a Roman villa, two or three feet below the surface of the ground. From the nature of the diggings much unavoidable damage had been done to the remains; but this much can be made out from the present excavations: that between two walls, running a considerable distance north and south and fifteen yards apart, several apartments existed, as indicated by walls, tessolated pavements, and large tile pavements. From these apartments three or four steps led down to a bath-room. The bath-room seemed to have been the front and most advanced basement room of the villa, and looked southward. From east to west the room measured about fifteen feet, and from south to north ten feet. From the east end of the north wall of the room the bath extended seven feet southwards along the east wall. The bath was between three and four feet in breadth, and its sides rose from the floor about two feet. The floor of the bath-room was formed of a beautifully white tessolated pavement, the tesseræ being about an inch square. The tesseræ of the bath-room were made of a white china clay, and were set in concrete. Tesseræ resembling those of the floor were extended up the sides of the walls for several inches, to form a dado. I am told that a dado has not been hitherto found in any other Roman building in England. In this case it was probably placed round the room to protect the lower part of the walls from the bath water. Tesseræ were also extended up the outside of the bath; the inside of the bath was formed of the same material as the tesseræ, but was quite smooth. The floor of the room, the dado, and the bath must have produced a fine effect, and must have looked like Parian marble. The well-plastered walls of the room were painted a creamy white, and the bordering of the walls and other decorations were painted with the greatest neatness and precision in fine reds, yellows, greens, blues, and blacks. On one piece of plaster I noticed the picture of a swallow, nicely drawn and painted. Two or three feet north of the bath-room, but in a different apartment, is a very deep well seven feet in diameter, which is still in a comparatively good state of preservation. The water of this well no doubt was used in the bath-room, and from the bath-room a well-constructed drain-pipe carried off the waste water. The house must have been the property of a Roman gentleman of taste and opulence. The site was well chosen; but, in consequence of the villa being built on the brow of a hill, the lower rooms were on different planes. The ancient Romans evidently had remarkably good ideas of sanitation. This villa was built on a mass of three layers of different kinds of concrete, to the depth in some places of upwards of three feet; and the drainage of the whole premises seemed, as the workmen remarked, to have been perfect. I may mention that the miners, in clearing away the soil immediately outside the villa, came upon a skull and some human bones, among which I found a tibia presenting a united fracture. I venture to think there is hardly a pathological museum in the United Kingdom which can boast of anything like this specimen of ancient surgery—a united fractured bone of an old Roman who lived, and certainly limped, seventeen or eighteen centuries ago.

I am, Sir, yours truly,

Lincoln, Sept. 5th, 1884. WILLIAM O'NEILL, M.D., M.R.C.P.Lond.

J. G. L. (Carlisle).—Among the descriptions of epidemic visitations the *chefs d'œuvre*, in a literary point of view, are those of Thucydides, Boccaccio, De Foe, and Manzoni, the highest merit belonging to the first and the last of these authors. The "Italia Militaire" (Florence, 1869) of Signor Edmondo d'Amicis contains a vividly dramatic account of the cholera-panic in Sicily in 1867. The narrative of the plague in "John Inglesant" has indications of power, but it is painfully elaborate.

Mrs. K. M. E.—We regret we are unable to assist our correspondent.

ANOTHER EPIDEMIC.

THE alarming spread of magnetic girls, says *Gaillard's Medical Journal*, deserves the immediate attention of sanitary authorities. Since the first case appeared, in the person of Miss Hurst, four more Georgia girls have been attacked, and are now on their way north, breaking umbrellas and otherwise displaying the terrible symptoms of magnetism. The disease is evidently assuming an epidemic form in Georgia, and it will spread throughout the country unless strong measures are promptly taken.

Mr. S. F. Cater.—1. We quite see our correspondent's difficulty, which we think, however, he overrates. The certificate of a medical man is understood to express merely an opinion where from the nature of things he cannot speak with certainty. There is nothing to prevent our correspondent amplifying the printed form by the addition of explanatory sentences. Whether a company can be sued on an ordinary written certificate depends entirely upon the terms of the contract. If no mention is made in the agreement that a particular certificate must be presented on application for a claim, the company have no power to dictate their own terms in the matter.—2. Wilson's Handbook of Hygiene and Sanitary Science, 5th edition, 1883; Bailey-Denton's Handbook of House Sanitation, 1882.

Mr. E. Seton Pattison.—The handbill is beneath contempt.

PROFESSIONAL AMENITIES ON BOARD PASSENGER STEAMERS.

To the Editor of THE LANCET.

SIR,—A is a medical officer on a first-class passenger steamer; B is a surgeon returning on the same to Europe on furlough. B prescribes for a saloon passenger, and requests A to make up the medicine, representing that the patient was known to him (B) at one of his stations. A obliges B by dispensing the prescription. The case being protracted, A suggests to B that he should be called into consultation, which B declines. Subsequently B sees other saloon passengers, and demands of A to make up the medicines, which A refuses to do unless in consultation with B.

1. Was A in the right in making up the prescriptions of B all through the case No. 1, as he had in the first instance obliged B by dispensing on the understanding that the patient was a friend of B's, even though B declined a consultation?—2. Would A have been within his right to have refused to make up B's prescriptions, either from the first or after he (A) had requested a consultation with B?—3. Suppose two or three surgeons were returning, and each wished to prescribe for some friend also returning, would A be in his right to point-blank refuse to make up any of their medicines, and to state that he was not their dispenser, and that he would not dispense unless he was in consultation?—4. Is it not contrary to all medical etiquette for passenger surgeons to prescribe for fellow passengers when there is a ship's medical officer on board?

I am, Sir, yours truly,

Sept. 15th, 1884. ENQUIRENS.

*** It is not necessary to give too categorical an answer to our correspondent's questions. Clearly, though in exceptional and slight cases such demands as B made may be acceded to with grace, it is not fair to treat the responsible officer of the ship as if he were the mere dispensing assistant of medical passengers.—ED. L.

Dr. V. Gerger.—In Austria the practice of medicine is, we believe, restricted to graduates of Austrian universities. The practice of foreign medical men may, however, be permitted by the Government after special application.

Walter should put the question to his medical attendant.

MEDICAL OFFICERS OF HEALTH AND GENERAL PRACTITIONERS.

To the Editor of THE LANCET.

SIR,—Will you be good enough to inform me whether it be a usual course to adopt, and in accordance with medical etiquette, for a medical officer of health to visit and examine a patient of another medical man, but in his sanitary district, when the case is reported to be one of infectious character by the sanitary inspector.

I am, Sir, yours truly,

Sept. 16th, 1884. BREAD TRAY.

*** It is impossible that any general rule as to this can be laid down. Whilst it is quite clear that, in virtue of his office, a medical officer of health has no legal right to visit any patient without his consent or the consent of his friends, and whilst it is not very often that an actual examination of a patient is necessary to the performance of the duties of an officer of health, it is at times of importance, in connexion with an inquiry he is making, that he should see one or more patients suffering from infectious disease. Such visits should, however, invariably be made in harmony with the medical practitioner in attendance, and when this is done no difficulty need be experienced.—ED. L.

Medicus (Croydon).—Thanks.

Sub.—We know of no book that will serve our correspondent's purpose.

AN OBSCURE CASE.

THE following statement of an obscure case, given in the words of the patient, has been forwarded by a member of the profession, with a request for its insertion, and in the hope of obtaining an opinion upon it by some of our readers:—"I caught cold while bathing in the sea about three months ago, and completely lost my smell and taste. I continued to bathe occasionally for about a fortnight, when I became ill with what I believe was inflammation of the nerves and membranes of the head, eyes, and nose, and suffered intense pain. These nerves and membranes are naturally very delicate, and I suffer very much at times in my eyes and head. I have now been in my usual health for about two months, but have not recovered my smell and taste."

Enquirer.—1. Gowers' Diseases of the Spinal Cord, or Ross's Treatise on Diseases of the Nervous System.—2. As a matter of fact, such appointments are regarded somewhat with disfavour, but we are not prepared to say with what justice.

Mr. Gorham (Tunbridge).—We shall be happy to receive the paper.

MEDICAL ATTENDANCE ON THE FAMILIES OF MEDICAL MEN.

To the Editor of THE LANCET.

SIR,—On April 4th, 1884, Mrs. S——, a widow lady, and a complete stranger to me, called at my house and inquired for me. I saw her, and she said her daughter, who resided in London, wished to come home for her confinement, and asked me if I would attend her. I acceded to the request, and booked the engagement. A few weeks afterwards Mrs. S—— called to introduce her daughter, Mrs. F——. In due time the confinement took place, which I attended. A day or two subsequently the husband came, and introduced himself as a medical man. This was the first intimation I had received of the fact, no mention having been made either at the time of engagement or the subsequent visit of introduction, nor even during the confinement. The subsequent attendance was long and anxious; for the child ultimately died when about five weeks old. Mrs. S——, after my attendance, gave me to understand that I should be paid for my services, and asked me to be as lenient as I could. Accordingly I sent in my account to Mrs. S—— (not to the husband, Mr. F——); but a few days afterwards Mr. F—— wrote to me, saying that he considered it very unprofessional of me for charging a medical man for services rendered to his wife and child. Now, what I should much like to know is—1. Was I right, or wrong, in making a charge, considering the circumstances of the case, Mr. F—— being a total stranger and a non-resident?—2. If I had been expected to attend gratuitously ought I not to have been made aware that I was to attend a medical man's wife, instead of being told of the fact after my services had been rendered? I have been in practice for over ten years, and have frequently attended the families of medical men, and have never made any charge; but these were acquaintances, or else living in the same town, and I knew I was attending a fellow practitioner's wife or family.

I am, Sir, yours truly,

Sept 15th, 1884. M.D., &c.

*** Agreeing with our correspondent, we cannot admire the uncandid way in which he has been treated. A medical man has never more reason to be thankful that he is a medical man than when a patient in his own family gives him anxiety and he finds that he can command without fee the willing and kind help of medical neighbours or medical consultants. But there is reason in all rules, and a good rule is not to be unreasonably used. If the lady did not wish to be confined in London, and the amenities of the profession were to be substituted for the usual fee, the very least that ought to have been done was that the husband of the lady should have written beforehand, and in the first instance, to the gentleman on whose kindness and time a serious demand was to be made. This is so obvious that we will not further insist on it. We insert the letter that in future a gracious custom may be used graciously, and not brought into discredit.—ED. L.

Microscope.—The foreign microscopes have hitherto been preferred on account of the better quality of their objectives. The disparity between English and foreign instruments is much less now than formerly.

ERRATUM.—In the communication from Italy, published last week, p. 524, first column, line 25 from the foot, "lettuce or an olive" should be *lettuce or endive*.

COMMUNICATIONS, LETTERS, &c., have been received from—Sir Risdon Bennett, London; Dr. Purcell, London; Mr. Rea Edwards; Dr. O'Reilly, London; Dr. Drysdale, Liverpool; Prof. Wharton Jones, Ventnor; Dr. H. Cocks, Preston; Dr. Wiltshire, Cowes; Mr. Cater, Dufftown; Dr. Herschell, London; Dr. W. A. Duncan, London; Mr. D. Macrae, London; Dr. Jamieson, Shanghai; Dr. Fitzpatrick, London; Dr. Taylor, London; Mr. Charles Hawkins, London; Mr. Gamgee, Birmingham; Dr. Geo. Johnson, London; Dr. Lewis Marshall, Nottingham; Dr. Wharton Hood, London; Dr. R. W. Reid, London; Dr. Findlater, Dufftown; Dr. Sawyer, Birmingham; Dr. Robinson, Hull; Mr. F. Esnor, Port Elizabeth; Dr. Saundby,

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LETTERS, *each with enclosure*, are also acknowledged from—Mr. Williams; Rev. K. W. Smith, Ely; Dr. Beattie, Dewsbury; Messrs. White and Chignell, Havant; Mr. Fowby, Chipping Norton; Mr. Moxon, Yarmouth; Mr. Tallack, London; Mrs. Chapman, Clapham; Mr. Wood, Bromgrove; Mr. Harrison, Liverpool; Mr. Andrew, Chorlton-on-Medlock; Messrs. Smith and Son, Manchester; Mr. Mackay, Mayfield; Mr. Austin, Faversham; Mr. Marsh, Fulham; Mr. Moore, Belfast; Miss Holroyd, Cambridge; Mr. Buller, Ely; Mr. Townsend, Exeter; Dr. Veitch; Mr. Herschel; Mrs. Ellis, St. Catharine's, Canada; Miss Buckler, Brighton; Mr. Offord, London; Dr. Rosser, Croydon; Mr. Williamson, Farnham; Messrs. Armfield and Sons, London; Dr. Masters, Thrapston; Messrs. Pope and Sons, Downham Market; Mr. Probyn, Lymington; Mr. Brown, London; Mr. Jackson, Bradford; Mr. Matheson, Edinburgh; Mr. Saunders, Camden-town; Mr. Penny, Islington; Mr. Entwistle, Manchester; Mr. Peters, Belfast; Mr. Gantby, Hull; Mr. Alderton; Mr. Gaton, Swansea; J. H. W., Earl's Barton; B. P., Chilwell; Surgeon, Birkdale; M.D., Arlington; Medicus, Swayton; L.R.C.P.; Medicus, Ebbw Vale; H.E.B., Royston; Medicus, Bridlington; Roar, West Brighton; M.D., Birmingham; Medicus, Hampstead; Alpha; A. B. G., Liverpool; H. H., Birmingham; Delta, Llanrwst; Medicus, Clapham Junction; Medicus, Camberwell; Examiner; Neurosis, Bembridge; Vendor; J. M.; S. Y. R.; Alpha, Ealing; S. P. Q. P.; B.A., M.D.; B. S. J.; M.D., Swanage; Practitioner; Scalpel, Shepherd's Bush; Meta, Folkestone.

Scotsman, Aberdeen Daily Free Press, Bath Argus, Western Daily Mercury, Melbourne Herald, Kimberley Independent, Dutoitspan Herald, Liverpool Daily Post, Prescot Reporter, Tyneside Echo, Kimberley Diamond Fields Advertiser, Calcutta Englishman, Leicester Daily Post, Liverpool Courier, Richmond and Twickenham Times, Bradford Observer, Bournemouth Observer, Bournemouth Visitors' Directory, The Schoolmaster, Philanthropic Guardian, &c., have been received.

Medical Diary for the ensuing Week.

Monday, September 29.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M. each day, and at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M. each day, and at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M
ST. MARK'S HOSPITAL.—Operations, 2 P.M., and on Tuesdays at the same hour.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.

Tuesday, September 30.

GUY'S HOSPITAL.—Operations, 1½ P.M., and on Friday at the same hour. Ophthalmic Operations on Mondays at 1.30 P.M., and Thursdays at 2 P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 2.30 P.M.

Wednesday, October 1.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.—Ophthalmic Operations on Tuesdays and Thursdays, at 1.30 P.M.
ST. MARY'S HOSPITAL.—Operations, 1½ P.M.—Skin Department: 9.30 A.M., on Tuesdays and Fridays.
ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
LONDON HOSPITAL.—Operations, 2 P.M., and on Thursday and Saturday at the same hour.
GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2½ P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at the same hour.—Skin Department: 1.45 P.M., and on Saturday at 9.15 A.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M.

Thursday, October 2.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—1½ P.M. Surgical Consultations.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and on Friday at the same hour.
NORTH-WEST LONDON HOSPITAL.—Operations, 2½ P.M.

Friday, October 3.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 2 P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.
WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—8 P.M. President's (Mr. F. Lawrance) Address, and a Case of Foreign Body Impacted in the Foot.—Mr. Bernard Pitts: Foreign Body in the Air-passages, followed by Abscess of the Lung; recovery.—Mr. A. Litton Forbes: Pharyngeal Deafness—its Pathology and treatment, with Analysis of Cases.—Mr. Gunton Alderton (for Mr. M. Thompson): Case of Retention relieved by Railroad Catheter; fever; death in three days.

Saturday, October 4.

KING'S COLLEGE HOSPITAL.—Operations, 1 P.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M

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An Inaugural Address

DELIVERED IN

ST. THOMAS'S HOSPITAL,

At the Opening of the Medical Session 1884-85,

BY SIR J. RISDON BENNETT, M.D., LL.D.,

FELLOW OF THE ROYAL SOCIETY.

GENTLEMEN,—It was, I believe, a saying of Dr. Johnson that "to judge rightly of the present we must oppose it to the past." Certainly, to judge rightly either of St. Thomas's Hospital and its School, or of medical science of the present day, it would be needful to look back, I will not say to bygone centuries, but at all events to the beginning of the present century. And to one standing in the position of him who has the honour of addressing you on this occasion there are many temptations to take a retrospective view and indulge in past memories. Nor should I despair of making such a retrospect interesting to many, perhaps to most, of my auditors. The history of such an institution as this cannot be devoid of either interest or instruction, not merely to members of our profession, but to all thoughtful men, to all true lovers of their country and mankind. For what would be the character of such a history? Would it not be the history of a long series of benevolent efforts to succour the destitute, heal the sick, and alleviate the ills of mankind? Would it not be the history of men whose lives were devoted to doing good to their fellow-creatures—of men whose efforts had been spent in investigating the secrets of nature and making every advance in science available for the benefit of humanity? Would it not be the history of one of the grandest and most venerable of those institutions which are the direct outcome of our common Christianity and the glory of our land?

But I do not propose to offer you any attempt at such a historical sketch, whether for the purpose of congratulating you on the present position and prospects of your hospital and school, or at the risk of posing as a *laudator temporis acti*. I wish rather to be allowed to ask you, as I asked myself after my former pupil, your distinguished and respected Teacher and Dean, had requested me to give the address on the opening of the present session, what is it that those who are entering on the medical profession are about to undertake? What is comprised in the preparation needed for rightly fulfilling the duties that will devolve upon them? These, surely, are questions that every one entering our profession should put to himself. But how few do so or give to them due consideration. It is only when we have entered on the duties of our calling, and by experience are made aware of the magnitude, nobility, and responsibility of the office we have undertaken that in our thoughtful moments we become to any adequate degree sensible of the requirements which our profession demands. The subject is far too extended and serious to be adequately treated in a brief address. But some very general considerations on a few points admit of being submitted for future thought; and if these should help you in any measure more adequately to realise what it is that you who are entering on your profession have undertaken, I shall be satisfied.

The poet tells us that "the proper study of mankind is man." But man is in a special sense our study; man in his entirety, physical, intellectual, and moral; man not only as the highest type of the animal kingdom, a constituent part of the created universe, and therefore subject to its laws; but man also as an intellectual and moral agent, subject to other and higher laws of the Great Lawgiver, of Him whose will is the one and only source of all law, whether physical or moral. Like all other living beings, we are subject to those laws and conditions on which life depends, and as intelligent and moral beings, members of a society of fellow-beings, subject to laws whose maintenance is essential to social life, not to mention those higher laws by which we are linked to a higher and more enduring life. All of us, therefore, must become more or less practically acquainted with the conditions under which we live, whether as individuals or members of society, and must learn, more or less accurately, the consequences of infringing the various laws to which we are subjected. The degree in which such knowledge is essential will differ in different circumstances and callings in life, but absolute ignorance is incompatible with either individual or social life. We, whose office it is especially to study all that relates to the life and health of our fellow-men, have to study man not only as an organised being in all his relations to the external world, but also as endowed with reason and a mental constitution with which his physical nature is combined, by which his material organisation is constantly influenced, and by which he is capable of influencing and is influenced by his fellow-men.

It requires but a very slight acquaintance with the practice of our art to learn how greatly the equilibrium of health depends on the due regulation of psychical as well as physical causes, and how much the influence and success of the medical adviser depends on the exercise of those subtle powers which are not be weighed by grains and ounces. In common with all men, we are bound to be just, manly, gentle, and loving towards all men with whom we have to do; but as members of a high and noble calling, to whom not only the lives and health, but to a large extent also the private and social interests, of our fellows are entrusted, we are under moral obligations of special and solemn stringency. We must learn not only how to regulate our own mental and moral powers so as to exercise our art with the fullest benefit to our patients, but must make it an important part of our study to watch, analyse, and estimate aright the various and ever-varying mental manifestations of our patients. It would be a great mistake to suppose that mental and moral philosophy, the study of the intellectual powers, were required for those only who intend to devote themselves to psychiatrics. Nor is it merely as contributing in no small measure to our therapeutic power that such studies are important. In the more strictly scientific departments of the investigation of disease—etiology, diagnosis, and prognosis—they are of equal moment. There is good reason for believing that in our present state of civilisation many more of our most important diseases than we have hitherto imagined have not merely a nervous, but a strictly mental origin. Happily, through the labours of such men as Bell and Marshall Hall among others, and by means of experimental physiology, our knowledge of the nervous system has been greatly advanced. The influence of mind over body is indeed no new discovery, though of late much more has been affirmed than can be proved of the influence of the material on the immaterial. Where the initiatory steps in the production of disease take place, and what is their precise nature, are indeed questions which physiologists and pathologists alike confess to be involved in mystery. But that in many instances their first manifestation is in the nervous system there is good reason for thinking, and that mental states and impressions do not only induce functional disturbance even to the extent of sudden arrest of function and consequent death we have abundant proof. The action of the heart, respiration, and secretion are all greatly influenced by mental states. Moral emotions that may cause the death of the mother by sudden arrest of the heart's action may also destroy the life of the infant at her breast by poisoning the nourishment that she supplies. The effects of remedies are largely determined by mental states. They become potent, modified, or inert, according to the mental state of the recipient, and this constitutes no small difficulty in determining their true action.

It is therefore not merely as a part of that general culture and preliminary education required of all who claim to be well educated that it behoves us to give mental philosophy or study of the intellectual powers a place in our curriculum. Nor is it merely as members of society and fellow-workers that we are bound to be guided by sound views of moral philosophy or ethics. For the direct purposes of our profession we need to give due regard to the reciprocal influences exerted between mind and body, to the moral powers with which we are endowed, and the modes in which they can be brought to bear on the welfare of our patients. The will, the imagination, emotions, affections, and desires, hope, fear, moral habits and conscience, all exercise an influence on the aspect, course, and final issue of disease. They require each in their turn due consideration from him who would rightly fulfil all that duty demands; or ensure his own success.

How often do we not see an ignorant empiric succeed in cases that have baffled the efforts of legitimate scientific

BEST COPY AVAILABLE

CHEAP DINNERS.

Apropos of our remarks on this subject on the 6th inst., our attention has been called to a pamphlet by Mrs. De Vere Mathew, published by Simpkin and Marshall, which has already reached a fifth edition, and the cost of which is eightpence. A glance at the contents of the little work is sufficient to show that it is likely to be very useful in straitened households, as well as to those who are engaged in the benevolent work of providing cheap and nutritious meals for the poor.

Mechanic.—We would advise our correspondent to refrain from rushing into print on a subject upon which his information is evidently very incomplete.

"WHAT IS A MINIM?"

To the Editor of THE LANCET.

SIR,—The letter which you were good enough to print under the above heading in your issue of Sept. 6th has received notice in a quarter, certainly most appropriate, with which, however, I was not acquainted. The Editor of the *Chemist and Druggist* has obligingly sent me a copy of his issue of Sept. 15th, in which I am editorially whipped (in a way that does not hurt much, happily, albeit he misspells my name), and, I hope rightly, instructed. The question involves more than I was aware of, and, if you permit, I will pursue it somewhat further.

The substance of the additional information supplied by the Editor of the *Chemist and Druggist* is contained in the italicised portions of the following definite statements:—"The minim is the 1·480th, and the fluid drachm is the one-eighth, part of *a fluid ounce, which is the 1·160th of an imperial gallon.* The *fluid* ounce, at the temperature of 62° Fahr., with the barometer at thirty inches, *weighs 437·5 grains.* These figures are not theory, but are statute law. They were given in an Order of Council issued in accordance with the Weights and Measures Act, 1878." I will not stop to pick holes in this, though the statement as to temperature and pressure inclines me to think that the "Orders in Council" referred to must be an interesting source of information, but should be glad to know whether the assurance about "statute law" applies to *both* of the preceding sentences. In that case the "fluid ounce" is in both said to be, by law, *equivalent to the ounce avoirdupois*, while the earlier states it to be also equal to 480 minims (? by law). Without actual reference to the "Orders in Council" I may not dispute this statement, but I may be permitted to feel very much surprised. Certainly, it falls in with something I have "heard say"—viz., that the fluid ounce is the twentieth part of an imperial pint (and therefore the 160th part of the imperial gallon); but, *per contra*, it falls *out*, most decidedly, with all tradition. The "wine gallon" is our oldest, and was quite recently the most uniformly recognised, standard of fluid measure. Even were all other evidence wanting, I think it would be hard to set aside that which I adduced from Thomson's Conspectus as to the relation in former days between the minim and wine gallon. As it happens, however, I have been furnished by a private correspondent with an extract (which he was kind enough to copy and send to me in answer to my letter in THE LANCET of Sept. 6th) from Hooper's Medical Dictionary, too long to quote in *extenso*, and too closely reasoned to bear mutilation, but which ends with these words: "The subdivision of the wine pint has therefore been extended to the sixtieth part of the fluid drachm, which is termed *minim*; and glass measures, expressive of such subdivision, have been adopted by the College." From what precedes this sentence of the extract it appears that there was a time when the measurement of small quantities of liquids was effected without the needful precision, through want of a recognised subdivision, and here we see how this want came to be authoritatively, though not legally, satisfied; but it was by the subdivision of the recognised wine gallon, not of the imperial. If, therefore, the Editor of the *Chemist and Druggist* is right in his reading of the "Orders in Council"—we need say nothing of statute law at present—that the fluid ounce which makes 480 minims is the same as the fluid ounce of which twenty go to the *imperial* pint, and *not* (mark this) the fluid ounce of which sixteen go to the *wine* pint, then, I think, we have as pretty a piece of conflict of authority as one could wish to see as the issue of discussion.

I am, Sir, your obedient servant,

Collingwood, Hawkhurst, Sept. 22nd, 1884. J. HERSCHEL.

P.S.—Since the above was not only written, but despatched, I have seen your issue of the 20th inst., containing four replies to my query about the minim, to acknowledge which I hope you will allow me space for a few more lines. It is plain that the conflict of authority which I point out above is both real and capable of easy explanation. It appears that the change of standard—if I may so call it—by which the "fluid ounce" ceased to be the sixteenth part of the old *wine pint* and became the twentieth part of the more modern *imperial pint*, was the definite act of those responsible for the London Pharmacopœia of 1836. The history of this change would no doubt be interesting, but I am not in a position at present to pursue the inquiry. For the moment I must be content to express my thanks to the Editor of THE LANCET for admitting my inquiry and to the gentlemen who have assisted in tracing the apparent error to a satisfactory origin. That the matter was not altogether unworthy of examination may, I think, be inferred from the fact that no one was prepared to reply "right away" that the minim of Thomson's Conspectus, which was, indeed, the measure of 57·60ths of a grain of water, was abolished in 1836, and superseded by the minim of 54⅔ grains (nearly) to the drachm, which is now in current use, although Mr. Martindale does (in *effect* say so much, and more.—J. H.

Sept. 24th, 1884.

PUNISHMENT OF CRIMINAL LUNATICS IN CHINA.

THE subjoined extract from the *Pekin Gazette* of June 19th, 1884, as translated in the *North China Daily News*, throws a painful light on the condition of legislation in the Chinese Empire:—"Ts'en Yü-ying reports the execution by the 'slicing' process of a lunatic who murdered his grandmother with a vegetable knife in a paroxysm of madness. The maniac, who was an orphan, was in charge of his grandmother, and though entreated by her relations and neighbours to place him in official custody she was too fond of her grandson to consent. One night a paroxysm of mania came on, and the maniac rushed into his grandmother's room, flourishing a vegetable knife and dancing about. His grandmother tried to take the knife away from him; he then stabbed her repeatedly, and she fell to the ground. The neighbours came to her rescue on hearing her cries, and seized the lunatic; but the wounds he had already inflicted were so severe that after lingering a few days she died. The grandson was then tried upon the capital charge, when it was conclusively proved that the crime was committed during a fit of insanity. The penalty for parricide or matricide being death by the 'slicing' process, this sentence was inflicted summarily upon the lunatic under the authority of the standing Imperial Death Warrant."

DISCOVERY OF A ROMAN VILLA, BATH-ROOM, AND BATH, WITH OTHER ROMAN REMAINS, AT LINCOLN.

To the Editor of THE LANCET.

SIR,—Recently Mr. Roseby's ironstone miners, in the process of opening up a new mining shaft in the Greetwell Fields, about half a mile from Lincoln, came upon the remains of a Roman villa, two or three feet below the surface of the ground. From the nature of the diggings much unavoidable damage had been done to the remains; but this much can be made out from the present excavations: that between two walls, running a considerable distance north and south and fifteen yards apart, several apartments existed, as indicated by walls, tessellated pavements, and large tile pavements. From these apartments three or four steps led down to a bath-room. The bath-room seemed to have been the front and most advanced basement room of the villa, and looked southward. From east to west the room measured about fifteen feet, and from south to north ten feet. From the east end of the north wall of the room the bath extended seven feet southwards along the east wall. The bath was between three and four feet in breadth, and its sides rose from the floor about two feet. The floor of the bath-room was formed of a beautifully white tessellated pavement, the *tesseræ* being about an inch square. The *tesseræ* of the bath-room were made of a white china clay, and were set in concrete. *Tesseræ* resembling those of the floor were extended up the sides of the walls for several inches, to form a dado. I am told that a dado has not been hitherto found in any other Roman building in England. In this case it was probably placed round the room to protect the lower part of the walls from the bath water. *Tesseræ* were also extended up the outside of the bath; the inside of the bath was formed of the same material as the *tesseræ*, but was quite smooth. The floor of the room, the dado, and the bath must have produced a fine effect, and must have looked like Parian marble. The well-plastered walls of the room were painted a creamy white, and the bordering of the walls and other decorations were painted with the greatest neatness and precision in fine reds, yellows, greens, blues, and blacks. On one piece of plaster I noticed the picture of a swallow, nicely drawn and painted. Two or three feet north of the bath-room, but in a different apartment, is a very deep well seven feet in diameter, which is still in a comparatively good state of preservation. The water of this well no doubt was used in the bath-room, and from the bath-room a well-constructed drain-pipe carried off the waste water. The house must have been the property of a Roman gentleman of taste and opulence. The site was well chosen; but, in consequence of the villa being built on the brow of a hill, the lower rooms were on different planes. The ancient Romans evidently had remarkably good ideas of sanitation. This villa was built on a mass of three layers of different kinds of concrete, to the depth in some places of upwards of three feet; and the drainage of the whole premises seemed, as the workmen remarked, to have been perfect. I may mention that the miners, in clearing away the soil immediately outside the villa, came upon a skull and some human bones, among which I found a tibia presenting a united fracture. I venture to think there is hardly a pathological museum in the United Kingdom which can boast of anything like this specimen of ancient surgery—a united fractured bone of an old Roman who lived, and certainly limped, seventeen or eighteen centuries ago.

I am, Sir, yours truly,

Lincoln, Sept. 5th, 1884. WILLIAM O'NEILL, M.D., M.R.C.P.Lond.

J. G. L. (Carlisle).—Among the descriptions of epidemic visitations the *chefs d'œuvre*, in a literary point of view, are those of Thucydides, Boccaccio, De Foe, and Manzoni, the highest merit belonging to the first and the last of these authors. The "Italia Militaire" (Florence, 1869) of Signor Edmondo d'Amicis contains a vividly dramatic account of the cholera-panic in Sicily in 1867. The narrative of the plague in "John Inglesant" has indications of power, but it is painfully elaborate.

Mrs. K. M. E.—We regret we are unable to assist our correspondent.

ANOTHER EPIDEMIC.

THE alarming spread of magnetic girls, says *Gaillard's Medical Journal*, deserves the immediate attention of sanitary authorities. Since the first case appeared, in the person of Miss Harst, four more Georgia girls have been attacked, and are now on their way north, breaking umbrellas and otherwise displaying the terrible symptoms of magnetism. The disease is evidently assuming an epidemic form in Georgia, and it will spread throughout the country unless strong measures are promptly taken.

Mr. S. F. Cater.—1. We quite see our correspondent's difficulty, which we think, however, he overrates. The certificate of a medical man is understood to express merely an opinion where from the nature of things he cannot speak with certainty. There is nothing to prevent our correspondent amplifying the printed form by the addition of explanatory sentences. Whether a company can be sued on an ordinary written certificate depends entirely upon the terms of the contract. If no mention is made in the agreement that a particular certificate must be presented on application for a claim, the company have no power to dictate their own terms in the matter.—2. Wilson's Handbook of Hygiene and Sanitary Science, 5th edition, 1883; Bailey-Denton's Handbook of House Sanitation, 1882.

Mr. E. Seton Pattison.—The handbill is beneath contempt.

PROFESSIONAL AMENITIES ON BOARD PASSENGER STEAMERS.

To the Editor of THE LANCET.

SIR,—A is a medical officer on a first-class passenger steamer; B is a surgeon returning on the same to Europe on furlough. B prescribes for a saloon passenger, and requests A to make up the medicine, representing that the patient was known to him (B) at one of his stations. A obliges B by dispensing the prescription. The case being protracted, A suggests to B that he should be called into consultation, which B declines. Subsequently B sees other saloon passengers, and demands of A to make up the medicines, which A refuses to do unless in consultation with B.

1. Was A in the right in making up the prescriptions of B all through the case No. 1, as he had in the first instance obliged B by dispensing on the understanding that the patient was a friend of B's, even though B declined a consultation?—2. Would A have been within his right to have refused to make up B's prescriptions, either from the first or after he (A) had requested a consultation with B?—3. Suppose two or three surgeons were returning, and each wished to prescribe for some friend also returning, would A be in his right to point-blank refuse to make up any of their medicines, and to state that he was not their dispenser, and that he would not dispense unless he was in consultation?—4 Is it not contrary to all medical etiquette for passenger surgeons to prescribe for fellow passengers when there is a ship's medical officer on board?

I am, Sir, yours truly,

Sept. 15th, 1884. ENQUIRENS.

*** It is not necessary to give too categorical an answer to our correspondent's questions. Clearly, though in exceptional and slight cases such demands as B made may be acceded to with grace, it is not fair to treat the responsible officer of the ship as if he were the mere dispensing assistant of medical passengers.—ED. L.

Dr. V. Gerger.—In Austria the practice of medicine is, we believe, restricted to graduates of Austrian universities. The practice of foreign medical men may, however, be permitted by the Government after special application.

Walter should put the question to his medical attendant.

MEDICAL OFFICERS OF HEALTH AND GENERAL PRACTITIONERS.

To the Editor of THE LANCET.

SIR,—Will you be good enough to inform me whether it be a usual course to adopt, and in accordance with medical etiquette, for a medical officer of health to visit and examine a patient of another medical man, but in his sanitary district, when the case is reported to be one of infectious character by the sanitary inspector.

I am, Sir, yours truly,

Sept. 16th, 1884. BREAD TRAY.

*** It is impossible that any general rule as to this can be laid down. Whilst it is quite clear that, in virtue of his office, a medical officer of health has no legal right to visit any patient without his consent or the consent of his friends, and whilst it is not very often that an actual examination of a patient is necessary to the performance of the duties of an officer of health, it is at times of importance, in connexion with an inquiry he is making, that he should see one or more patients suffering from infectious disease. Such visits should, however, invariably be made in harmony with the medical practitioner in attendance, and when this is done no difficulty need be experienced.—ED. L.

Medicus (Croydon).—Thanks.

Bab.—We know of no book that will serve our correspondent's purpose.

AN OBSCURE CASE.

THE following statement of an obscure case, given in the words of the patient, has been forwarded by a member of the profession, with a request for its insertion, and in the hope of obtaining an opinion upon it by some of our readers:—"I caught cold while bathing in the sea about three months ago, and completely lost my smell and taste. I continued to bathe occasionally for about a fortnight, when I became ill with what I believe was inflammation of the nerves and membranes of the head, eyes, and nose, and suffered intense pain. These nerves and membranes are naturally very delicate, and I suffer very much at times in my eyes and head. I have now been in my usual health for about two months, but have not recovered my smell and taste."

Enquirer.—1. Gowers' Diseases of the Spinal Cord, or Ross's Treatise on Diseases of the Nervous System.—2. As a matter of fact, such appointments are regarded somewhat with disfavour, but we are not prepared to say with what justice.

Mr. Gorham (Tunbridge).—We shall be happy to receive the paper.

MEDICAL ATTENDANCE ON THE FAMILIES OF MEDICAL MEN.

To the Editor of THE LANCET.

SIR,—On April 4th, 1884, Mrs. S——, a widow lady, and a complete stranger to me, called at my house and inquired for me. I saw her, and she said her daughter, who resided in London, wished to come home for her confinement, and asked me if I would attend her. I acceded to the request, and booked the engagement. A few weeks afterwards Mrs. S—— called to introduce her daughter, Mrs. F——. In due time the confinement took place, which I attended. A day or two subsequently the husband came, and introduced himself as a medical man. This was the first intimation I had received of the fact, no mention having been made either at the time of engagement or the subsequent visit of introduction, nor even during the confinement. The subsequent attendance was long and anxious; for the child ultimately died when about five weeks old. Mrs. S——, after my attendance, gave me to understand that I should be paid for my services, and asked me to be as lenient as I could. Accordingly I sent in my account to Mrs. S—— (not to the husband, Mr. F——); but a few days afterwards Mr. F—— wrote to me, saying that he considered it very unprofessional of me for charging a medical man for services rendered to his wife and child. Now, what I should much like to know is—1. Was I right, or wrong, in making a charge, considering the circumstances of the case, Mr. F—— being a total stranger and a non-resident?—2. If I had been expected to attend gratuitously ought I not to have been made aware that I was to attend a medical man's wife, instead of being told of the fact after my services had been rendered? I have been in practice for over ten years, and have frequently attended the families of medical men, and have never made any charge; but these were acquaintances, or else living in the same town, and I knew I was attending a fellow practitioner's wife or family.

I am, Sir, yours truly,

Sept 15th, 1884. M.D., &c.

*** Agreeing with our correspondent, we cannot admire the uncandid way in which he has been treated. A medical man has never more reason to be thankful that he is a medical man than when a patient in his own family gives him anxiety and he finds that he can command without fee the willing and kind help of medical neighbours or medical consultants. But there is reason in all rules, and a good rule is not to be unreasonably used. If the lady did not wish to be confined in London, and the amenities of the profession were to be substituted for the usual fee, the very least that ought to have been done was that the husband of the lady should have written beforehand, and in the first instance, to the gentleman on whose kindness and time a serious demand was to be made. This is so obvious that we will not further insist on it. We insert the letter that in future a gracious custom may be used graciously, and not brought into discredit.—ED. L.

Microscope.—The foreign microscopes have hitherto been preferred on account of the better quality of their objectives. The disparity between English and foreign instruments is much less now than formerly.

ERRATUM.—In the communication from Italy, published last week, p. 524, first column, line 25 from the foot, "lettuce or an olive" should be *lettuce or endive*.

COMMUNICATIONS, LETTERS, &c., have been received from—Sir Risdon Bennett, London; Dr. Purcell, London; Mr. Rea Edwards; Dr. O'Reilly, London; Dr. Drysdale, Liverpool; Prof. Wharton Jones, Ventnor; Dr. H. Cocks, Preston; Dr. Wiltshire, Cowes; Mr. Cater, Dufftown; Dr. Herschell, London; Dr. W. A. Duncan, London; Mr. D. Macrae, London; Dr. Jamieson, Shanghai; Dr. Fitzpatrick, London; Dr. Taylor, London; Mr. Charles Hawkins, London; Mr. Gamgee, Birmingham; Dr. Geo. Johnson, London; Dr. Lewis Marshall, Nottingham; Dr. Wharton Hood, London; Dr. R. W. Reid, London; Dr. Findlater, Dufftown; Dr. Sawyer, Birmingham; Dr. Robinson, Hull; Mr. F. Rome, Port Elizabeth; Dr. Saundby,

Birmingham; Dr. Jas. Adams, Ashburton; Mr. Batterham, Wolverhampton; Mr. Barwell, London; Dr. Paramore, London; Mr. C. E. Jennings, London; Brigade Surgeon Oughton; Mr. J. C. Lucas, London; Mr. Kesteven, London; Dr. Savage, London; Dr. W. T. Brooks, Oxford; Dr. Dolan, Halifax; Messrs. Avery, Birmingham; Dr. J. Adam, Malling; Mr. Algar, London; Mr. Berne, Huddersfield; Dr. Campbell Pope, London; Mr. Austin, London; Mr. H. A. Allbutt, Leeds; Dr. Addinsell, London; Dr. Macewen, Glasgow; Surgeon-Major Alcock; Mr. James Startin, London; Dr. Braidwood, Birkenhead; Mr. Davidge, London; Mr. H. A. Reeves, London; Mr. M. Clifford, London; Dr. Darier, Paris; Mr. Wheeler, Dublin; Dr. Girdlestone, Biarritz; Dr. A. J. Harries, London; Major Upton, Exmouth; Mr. C. E. Cassal, London; Mr. E. H. Schroeder, Berlin; Mr. Woodward, Birmingham; Mr. Whitley, London; Messrs. Bell and Bradfute, Edinburgh; Mrs. Napper, Bournemouth; Mr. Luchi, Gallicia; Messrs. Robertson and Scott, Edinburgh; Messrs. Keith and Co., Edinburgh; Mr. Cornish, Manchester; Dr. Bristowe, Chippingham; Mr. Sandsford; Mr. Pierse; Mr. Wohlman, Hertford; Mr. Webb, Bury; Mr. Edgar, Hackney; Messrs. Macmillan and Co., Cambridge; Mr. Gilder, Hereford; Dr. McNaughton Jones, London; Mr. Stamford, London; Miss Down, New York; Mr. Smale, Bournemouth; Dr. Squire, London; Mr. Miller, Clapton; Mr. Jesse, Henbury; Mr. Abbs, Dewsbury; Mr. Freeman, London; Messrs. Arnold and Sons, London; Mr. Storey, Leicester; Mr. Stone, Banbury; Mr. Adams, North Shields; Mr. Wright, Leeds; Mr. Ness, London; Mr. D. Buxton, London; Mr. Fitzroy Benham, London; Mr. Barford, Wokingham; Nemo; P., Southampton; Fiat Justitia; Whitworth; F.R.C.S.Exam.; Dr. R., Weston-super-Mare; A Constant Reader; Bab; M.M.; Bread Tray; M.D.; Medicus; Volunteer Surgeon; Enquirens.

LETTERS, *each with enclosure*, are also acknowledged from—Mr. Williams; Rev. E. W. Smith, Ely; Dr. Beattie, Dewsbury; Messrs. White and Chignell, Havant; Mr. Powby, Chipping Norton; Mr. Moxon, Yarmouth; Mr. Tallack, London; Mrs. Chapman, Clapham; Mr. Wood, Bromgrove; Mr. Harrison, Liverpool; Mr. Andrew, Chorlton-on-Medlock; Messrs. Smith and Son, Manchester; Mr. Mackay, Mayfield; Mr. Austin, Faversham; Mr. Marsh, Fulham; Mr. Moore, Belfast; Miss Holroyd, Cambridge; Mr. Buller, Ely; Mr. Townsend, Exeter; Dr. Veitch; Mr. Herschel; Mrs. Ellis, St. Catharine's, Canada; Miss Buckler, Brighton; Mr. Offord, London; Dr. Rosser, Croydon; Mr. Williamson, Farnham; Messrs. Armfield and Sons, London; Dr. Masters, Thrapston; Messrs. Pope and Sons, Downham Market; Mr. Probyn, Lymington; Mr. Brown, London; Mr. Jackson, Bradford; Mr. Matheson, Edinburgh; Mr. Saunders, Camden-town; Mr. Penny, Islington; Mr. Entwistle, Manchester; Mr. Peters, Belfast; Mr. Gantby, Hull; Mr. Alderton; Mr. Gaton, Swansea; J. H. W., Earl's Barton; B. P., Chilwell; Surgeon, Birkdale; M.D., Arlington; Medicus, Swayton; L.R.C.P.; Medicus, Ebbw Vale; H.E.B., Royston; Medicus, Bridlington; Boaz, West Brighton; M.D., Birmingham; Medicus, Hampstead; Alpha; A. B. G., Liverpool; H. H., Birmingham; Delta, Llanrwst; Medicus, Clapham Junction; Medicus, Camberwell; Examiner; Neurosis, Bembridge; Vendor; J. M.; S. Y. R.; Alpha, Ealing; S. P. Q. P.; B.A., M.D.; B. S. J.; M.D., Swansea; Practitioner; Scalpel, Shepherd's Bush; Mata, Folkestone.

Eastman, Aberdeen Daily Free Press, Bath Argus, Western Daily Mercury, Melbourne Herald, Kimberley Independent, Dutoitspan Herald, Liverpool Daily Post, Prescot Reporter, Tyneside Echo, Kimberley Diamond Fields Advertiser, Calcutta Englishman, Leicester Daily Post, Liverpool Courier, Richmond and Twickenham Times, Bradford Observer, Bournemouth Observer, Bournemouth Visitors' Directory, The Schoolmaster, Philanthropic Guardian, &c., have been received.

Medical Diary for the ensuing Week.

Monday, September 29.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M. each day, and at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M. each day, and at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
ST. MARK'S HOSPITAL.—Operations, 2 P.M., and on Tuesdays at the same hour.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.

Tuesday, September 30.

GUY'S HOSPITAL.—Operations, 1½ P.M., and on Friday at the same hour. Ophthalmic Operations on Mondays at 1.30 P.M., and Thursdays at 2 P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 2.30 P.M.

Wednesday, October 1.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.—Ophthalmic Operations on Tuesdays and Thursdays, at 1.30 P.M.
ST. MARY'S HOSPITAL.—Operations, 1½ P.M.—Skin Department: 9.30 A.M., on Tuesdays and Fridays.
ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
LONDON HOSPITAL.—Operations, 2 P.M., and on Thursday and Saturday at the same hour.
GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2½ P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at the same hour.—Skin Department: 1.45 P.M., and on Saturday at 9.15 A.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M.

Thursday, October 2.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—1½ P.M. Surgical Consultations.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and on Friday at the same hour.
NORTH-WEST LONDON HOSPITAL.—Operations, 2½ P.M.

Friday, October 3.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 2 P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.
WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—8 P.M. President's (Mr. F. Lawrance) Address, and a Case of Foreign Body Impacted in the Foot.—Mr. Bernard Pitts: Foreign Body in the Air-passages, followed by Abscess of the Lung; recovery.—Mr. A. Litton Forbes: Pharyngeal Deafness—its Pathology and treatment, with Analysis of Cases.—Mr. Ganton Alderton (for Mr. M. Thompson): Case of Retention relieved by Railroad Catheter; fever; death in three days.

Saturday, October 4.

KING'S COLLEGE HOSPITAL.—Operations, 1 P.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M.

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